

**CITY OF NORFOLK, VIRGINIA**  
**\$43,070,000**  
**Water Revenue Bonds,**  
**Series 2013**

**Dated: Date of Delivery**

**Due: November 1, as shown on the inside cover**

The City of Norfolk, Virginia (the "City"), prepared this Official Statement to provide information on the above-referenced bonds (the "2013 Bonds"). This cover page presents a summary of selected information for your convenience and does not provide a complete description of the 2013 Bonds. To make an informed decision regarding the 2013 Bonds, you should read this Official Statement in its entirety.

**Tax Matters**

In the opinion of Bond Counsel, under current law and assuming the compliance with certain covenants by the City and the accuracy of certain representations and certifications made by certain City officials and other persons and entities described in "TAX MATTERS" herein, interest on the 2013 Bonds (i) is excludable from the gross income of the owners thereof for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, as amended, and (ii) is not a specific item of tax preference for purposes of the federal alternative minimum tax imposed on individuals and corporations. However, interest on the 2013 Bonds must be included in the adjusted current earnings of certain corporations for purposes of computing the federal alternative minimum tax imposed on such corporations and may be subject to other federal income tax consequences as described in "TAX MATTERS."

Bond Counsel is of the further opinion that interest on the 2013 Bonds is excludable from gross income for purposes of income taxation by the Commonwealth of Virginia.

Bond Counsel expresses no opinion regarding any other tax consequence related to the ownership or disposition of, or the accrual or receipt of interest on, the 2013 Bonds.

See "TAX MATTERS" herein regarding other tax considerations.

**Security**

The 2013 Bonds are limited obligations of the City payable solely from Net Revenues derived from the City's water system and other funds pledged for their payment under the terms of the Indenture. Neither the faith and credit of the Commonwealth of Virginia nor the faith and credit of any county, city, town or other political subdivision of the Commonwealth of Virginia, including the City, is pledged to the payment of principal of, premium, if any, or interest on the 2013 Bonds. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS" herein.

**Redemption**

See inside cover of this Official Statement and the section entitled "DESCRIPTION OF THE BONDS - Redemption," for a description of the redemption provisions with respect to the 2013 Bonds.

**Authority for Issuance**

Ordinance No. 44,927 adopted by the City Council on December 11, 2012.

**Purpose**

The proceeds of the 2013 Bonds will be used, together with other available funds, to (i) finance certain costs of acquiring, constructing and equipping capital improvements to the City's water system, and (ii) pay the underwriter's discount and costs of issuance of the 2013 Bonds. See "SOURCES AND USES OF FUNDS" herein.

**Interest Payment Dates**

Semi-annually on May 1 and November 1, beginning May 1, 2013.

**Registration**

Book-Entry Only; The Depository Trust Company. See "DESCRIPTION OF THE BONDS - Book-Entry Only System" herein.

**Closing/Delivery Date**

On or about February 20, 2013.

**Bond Counsel**

McGuireWoods LLP, Richmond, Virginia.

**Financial Advisor**

Public Financial Management, Inc., Arlington, Virginia.

**Registrar/Paying Agent**

U.S. Bank National Association.

**Issuer Contact**

Director of Finance of the City. (757) 664-4346.

Dated: February 11, 2013

**CITY OF NORFOLK, VIRGINIA**

**\$43,070,000**

**Water Revenue Bonds, Series 2013  
(Base CUSIP Number 656009)\*\***

**MATURITIES, AMOUNTS, INTEREST RATES, PRICES AND YIELDS**

**\$30,335,000 Serial 2013 Bonds**

| <b><u>Year Of Maturity<br/>(November 1)</u></b> | <b><u>Principal<br/>Amount</u></b> | <b><u>Interest<br/>Rate</u></b> | <b><u>Price</u></b> | <b><u>Yield</u></b> | <b><u>CUSIP**<br/>Suffix</u></b> |
|-------------------------------------------------|------------------------------------|---------------------------------|---------------------|---------------------|----------------------------------|
| 2024                                            | \$1,390,000                        | 5.000%                          | 121.899%*           | 2.080%              | JV0                              |
| 2025                                            | 1,465,000                          | 5.000                           | 121.227*            | 2.160               | JW8                              |
| 2026                                            | 1,540,000                          | 5.000                           | 120.727*            | 2.220               | JX6                              |
| 2027                                            | 1,620,000                          | 5.000                           | 120.145*            | 2.290               | JY4                              |
| 2028                                            | 1,700,000                          | 5.000                           | 119.568*            | 2.360               | JZ1                              |
| 2029                                            | 1,790,000                          | 5.000                           | 119.075*            | 2.420               | KA4                              |
| 2030                                            | 1,880,000                          | 5.000                           | 118.585*            | 2.480               | KB2                              |
| 2031                                            | 1,975,000                          | 5.000                           | 118.178*            | 2.530               | KC0                              |
| 2032                                            | 2,075,000                          | 5.000                           | 117.773*            | 2.580               | KD8                              |
| 2033                                            | 2,185,000                          | 5.000                           | 117.369*            | 2.630               | KE6                              |
| 2034                                            | 2,295,000                          | 5.000                           | 117.289*            | 2.640               | KF3                              |
| 2035                                            | 2,415,000                          | 5.000                           | 116.887*            | 2.690               | KG1                              |
| 2036                                            | 2,535,000                          | 5.000                           | 116.408*            | 2.750               | KH9                              |
| 2037                                            | 2,665,000                          | 5.000                           | 115.930*            | 2.810               | KJ5                              |
| 2038                                            | 2,805,000                          | 5.000                           | 115.455*            | 2.870               | KK2                              |

**\$12,735,000 5.000% Term 2013 Bonds due November 1, 2042, priced at 114.434%\* to yield 3.000%, CUSIP Suffix\*\* KL0**

\* Priced to first optional redemption date of May 1, 2021.

**OPTIONAL REDEMPTION**

The 2013 Bonds are subject to redemption before maturity at the option of the City at any time on or after May 1, 2021, from any money available for such purpose, in whole or in part in increments of \$5,000, at par plus accrued and unpaid interest to the date fixed for redemption.

**MANDATORY SINKING FUND REDEMPTION**

The 2013 Bonds stated to mature on November 1, 2042, are subject to mandatory redemption, in part, on November 1 in the years and at the principal amounts set forth below at a redemption price equal to 100% of the principal amount to be redeemed, plus unpaid interest accrued to the date fixed for redemption.

| <b><u>Year<br/>(November 1)</u></b> | <b><u>Amount</u></b> |
|-------------------------------------|----------------------|
| 2039                                | \$2,950,000          |
| 2040                                | 3,100,000            |
| 2041                                | 3,260,000            |
| 2042*                               | 3,425,000            |

\*Final maturity

\*\* A registered trademark of the American Bankers Association ("ABA"), used by Standard & Poor's in its operation of the CUSIP Service Bureau for the ABA. The above CUSIP (Committee on Uniform Securities Identification Procedures) numbers have been assigned by an organization not affiliated with the City, and the City is not responsible for the selection or use of the CUSIP numbers. The CUSIP numbers are included solely for the convenience of bondholders and no representation is made as to the correctness of such CUSIP numbers. CUSIP numbers assigned to securities may be changed during the term of such securities based on a number of factors including, but not limited to, the refunding or defeasance of such securities or the use of secondary market financial products. The City has not agreed to, and there is no duty or obligation to, update this Official Statement to reflect any change or correction in the CUSIP numbers set forth above.

## **CITY OF NORFOLK, VIRGINIA**

### **CITY COUNCIL**

Paul D. Fraim, Mayor  
Anthony Burfoot, Vice Mayor

Andrew A. Protogyrou  
Paul R. Riddick  
Thomas R. Smigiel

Dr. Theresa W. Whibley  
Angelia M. Williams  
Barclay C. Winn

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### **MUNICIPAL OFFICIALS**

Marcus D. Jones, City Manager  
Alice M. Kelly, CPA, Director of Finance  
Kristen M. Lentz, P.E., Director of Utilities  
Bernard A. Pishko, City Attorney

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### **BOND COUNSEL**

McGuireWoods LLP  
Richmond, Virginia

### **FINANCIAL ADVISOR**

Public Financial Management, Inc.  
Arlington, Virginia

### **CONSULTING ENGINEER**

Black & Veatch  
Orlando, Florida

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THE 2013 BONDS ARE EXEMPT FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED. THE 2013 BONDS ARE ALSO EXEMPT FROM REGISTRATION UNDER THE SECURITIES LAWS OF THE COMMONWEALTH OF VIRGINIA.

NO DEALER, BROKER, SALESMAN OR OTHER PERSON HAS BEEN AUTHORIZED BY THE CITY TO GIVE ANY INFORMATION OR TO MAKE ANY REPRESENTATIONS OTHER THAN THOSE CONTAINED IN THIS OFFICIAL STATEMENT, AND, IF GIVEN OR MADE, SUCH OTHER INFORMATION OR REPRESENTATIONS MUST NOT BE RELIED UPON AS HAVING BEEN AUTHORIZED BY THE CITY. THIS OFFICIAL STATEMENT DOES NOT CONSTITUTE AN OFFER TO SELL OR THE SOLICITATION OF AN OFFER TO BUY, NOR SHALL THERE BE ANY SALE OF THE BONDS BY ANY PERSON IN ANY JURISDICTION IN WHICH IT IS UNLAWFUL FOR SUCH PERSON TO MAKE AN OFFER, SOLICITATION OR SALE. THIS OFFICIAL STATEMENT IS NOT TO BE CONSTRUED AS A CONTRACT OR AGREEMENT BETWEEN THE CITY AND THE PURCHASERS OR OWNERS OF ANY OF THE 2013 BONDS. THE INFORMATION AND EXPRESSIONS OF OPINION IN THIS OFFICIAL STATEMENT ARE SUBJECT TO CHANGE WITHOUT NOTICE, AND NEITHER THE DELIVERY OF THIS OFFICIAL STATEMENT NOR ANY SALE MADE UNDER IT WILL, UNDER ANY CIRCUMSTANCES, CREATE ANY IMPLICATION THAT THERE HAS BEEN NO CHANGE IN THE AFFAIRS OF THE CITY SINCE THE DATE OF THIS OFFICIAL STATEMENT.

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Third parties may engage in transactions that stabilize, maintain or otherwise affect the price of the 2013 Bonds, including transactions to (i) overalloc in arranging the sales of the 2013 Bonds and (ii) make purchases in sales of the 2013 Bonds, for long or short accounts, on a when-issued basis or otherwise, at prices, in amounts and in a manner beyond the control of the City. Such actions, if commenced, may be discontinued at any time.

This Official Statement contains certain projections or estimates, as well as assumptions made by and information currently available to the City. When information presented herein is not a recitation of historical fact, it constitutes "forward looking statements." When used in this Official Statement, the words, "anticipate," "estimate," "expect" and similar expressions are intended to identify projections and estimates. Such statements are subject to certain risks, uncertainties and assumptions. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those anticipated, estimated or expected. The assumptions and expectations concerning the receipt in future years of Net Revenues that secure the 2013 Bonds are subject to various uncertainties that may adversely affect the amount of such Net Revenues. Hence, readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof.

All quotations from, and summaries and explanations of, provisions of law and documents herein do not purport to be complete and reference is made to such laws and documents for full and complete statements of their provisions. Any statements made in this Official Statement involving estimates or matters of opinion, whether or not expressly so stated, are intended merely as estimates or opinions and not as representations of fact.

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## OFFICIAL STATEMENT

### Relating to the Issuance of

**\$43,070,000**

**City of Norfolk, Virginia**

**Water Revenue Bonds,**

**Series 2013**

### INTRODUCTORY STATEMENT

The purpose of this Official Statement, including the information contained in the Appendices, is to furnish information relating to the City of Norfolk, Virginia (the "City"), its water supply, treatment, storage and distribution system (the "System" or the "Water System") and its Water Revenue Bonds, Series 2013 (the "2013 Bonds"), to be issued in the aggregate principal amount of \$43,070,000. This Official Statement has been authorized by the City for use in connection with the sale of the 2013 Bonds.

The 2013 Bonds will be issued pursuant to the Public Finance Act of 1991, Chapter 26 of Title 15.2 of the Code of Virginia of 1950, as amended (the "Act"). The 2013 Bonds are being issued under the provisions of a Master Indenture of Trust dated as of November 1, 1993, as previously supplemented and amended (the "Master Indenture"), between the City and U.S. Bank National Association, Richmond, Virginia, as successor Trustee (together with any successor, the "Trustee"), as additionally supplemented by a Tenth Supplemental Indenture of Trust dated as of February 1, 2013 (the "Tenth Supplemental Indenture"), between the City and the Trustee. The Master Indenture and the Tenth Supplemental Indenture are referred to collectively herein as the "Indenture."

Certain capitalized terms not otherwise defined herein shall have the meanings set forth in the Indenture. See "Appendix A - DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE" hereto.

The 2013 Bonds are the ninth Series of Bonds issued under the Master Indenture. Set forth in the following chart are the issue dates, original principal amounts and outstanding principal amounts of the four prior Series of Bonds with Bonds currently Outstanding:

#### Series of Bonds with Bonds Outstanding

| <u>Series of Bonds</u>                                        | <u>Issue Date</u>  | <u>Original<br/>Principal Amount</u> | <u>Outstanding<br/>Principal Amount as<br/>of February 1, 2013</u> |
|---------------------------------------------------------------|--------------------|--------------------------------------|--------------------------------------------------------------------|
| Water Revenue and Refunding Bonds, Series 2005 ("2005 Bonds") | March 23, 2005     | \$ 22,810,000                        | \$ 17,020,000                                                      |
| Water Revenue Bonds, Series 2008 ("2008 Bonds")               | April 23, 2008     | 58,415,000                           | 54,385,000                                                         |
| Water Revenue Bonds, Series 2010 ("2010 Bonds")               | September 30, 2010 | 47,415,000                           | 45,580,000                                                         |
| Water Revenue Refunding Bonds, Series 2012 ("2012 Bonds")     | April 4, 2012      | 176,925,000                          | 172,390,000                                                        |
| <b>Total</b>                                                  |                    | <b>\$305,565,000</b>                 | <b>\$289,375,000</b>                                               |

The 2013 Bonds will be limited obligations of the City payable solely from Net Revenues derived from the System and other funds pledged for the payment under the terms of the Indenture. Neither the faith and credit of the Commonwealth of Virginia (the "Commonwealth") nor the faith and credit of any county, city, town or other subdivision of the Commonwealth, including the City, is pledged to the payment of the principal of, premium, if any, or interest on the 2013 Bonds. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS" below.

The 2013 Bonds will be issued in authorized denominations of \$5,000, or whole multiples thereof, and held in book-entry only form by The Depository Trust Company ("DTC"), or its nominee, as securities depository with respect to the 2013 Bonds. See "DESCRIPTION OF THE BONDS - Book-Entry Only System" below. The 2013 Bonds are subject to optional redemption prior to their stated maturities. See "DESCRIPTION OF THE BONDS - Redemption" below.

All financial and other information presented in this Official Statement has been provided by the City and other sources that are believed to be reliable. The presentation of information is intended to show recent historic information and is not intended, unless specifically stated, to indicate future continuing trends in the financial position or other affairs of the System. No representation is made that past experience, as is shown by such financial and other information, will necessarily continue or be repeated in the future.

This Official Statement should be considered in its entirety, and no one subject discussed should be considered less important than any other by reason of its location in the text. Reference should be made to the laws, reports or other documents referred to in this Official Statement, including the Indenture and the Feasibility Study, as hereinafter defined, for more complete information regarding their contents.

## **AUTHORIZATION AND PURPOSE**

The 2013 Bonds have been authorized by Ordinance No. 44,927 enacted by the City Council on December 11, 2012. The City is issuing the 2013 Bonds and using the proceeds thereof, together with other available funds, to (i) finance certain costs of acquiring, constructing and equipping capital improvements to the City's water system, and (ii) pay the underwriter's discount and costs of issuance of the 2013 Bonds. For the findings of engineering and financial studies relating to the capital projects and the issuance of the 2013 Bonds, see Appendix G, the Series 2013 Water Revenue Bond Feasibility Report prepared by Black & Veatch, the City's Consulting Engineer, dated February 4, 2013 (the "Feasibility Study").

## **DESCRIPTION OF THE BONDS**

### **General**

The 2013 Bonds will be dated the date of delivery, and will mature on November 1 in the years and amounts and bear interest at the rates set forth on the inside cover page of this Official Statement. Interest on the 2013 Bonds will be payable semi-annually on May 1 and November 1, commencing May 1, 2013. The Trustee will act as paying agent for the 2013 Bonds under the Indenture. The 2013 Bonds will be subject to optional redemption prior to their stated maturities as described herein.

### **Book-Entry Only System**

*The description which follows of the procedures and recordkeeping with respect to beneficial ownership interests in the 2013 Bonds, payments of principal of and interest on the bonds to DTC, its nominee, Direct Participants, as hereinafter defined, or Beneficial Owners, as hereinafter defined, confirmation and transfer of beneficial ownership interests in the bonds and other bond-related transactions by and between DTC, the Direct Participants and Beneficial Owners is based solely on information furnished by DTC.*

DTC will act as securities depository for the 2013 Bonds. The 2013 Bonds will be issued as fully-registered securities registered in the name of Cede & Co. (DTC's partnership nominee), or such other name as may be requested by an authorized representative of DTC. One fully-registered bond certificate will be issued for each maturity of the 2013 Bonds in the aggregate principal amount of such issue and will be deposited with DTC.

DTC, the world's largest securities depository, is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code, and a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments (from over 100 countries) that DTC's participants ("Direct Participants") deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between Direct Participants' accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The



Depository Trust & Clearing Corporation ("DTCC"). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly (the "Indirect Participants"). DTC has Standard & Poor's rating of AA+. The DTC Rules applicable to its Direct Participants and Indirect Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at [www.dtcc.com](http://www.dtcc.com).

Purchases of the 2013 Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the 2013 Bonds on DTC's records. The ownership interest of each actual purchaser of the 2013 Bonds (the "Beneficial Owner") is in turn to be recorded on the records of Direct Participants and Indirect Participants, as applicable. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct Participant or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the 2013 Bonds are to be accomplished by entries made on the books of Direct Participants and Indirect Participants acting on behalf of the Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in the 2013 Bonds, except in the event that use of the book-entry system for the 2013 Bonds is discontinued.

To facilitate subsequent transfers, the 2013 Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of the 2013 Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the 2013 Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts the 2013 Bonds are credited, which may or may not be the Beneficial Owners. The Direct Participants and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial Owners of the 2013 Bonds may wish to take certain steps to augment transmission to them of notices of significant events with respect to the 2013 Bonds, such as redemptions, tenders, defaults and proposed amendments to the security documents. For example, Beneficial Owners of the 2013 Bonds may wish to ascertain that the nominee holding the 2013 Bonds for their benefit has agreed to obtain and transmit notices to Beneficial Owners. In the alternative, Beneficial Owners may wish to provide their names and addresses to the registrar and request that copies of notices be provided directly to them.

Redemption notices shall be sent to DTC. If less than all of the 2013 Bonds within an issue are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such issue to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to the 2013 Bonds unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an omnibus proxy (the "Omnibus Proxy") to the City as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the 2013 Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Redemption proceeds, distributions, and dividend payments on the 2013 Bonds will be made to Cede & Co. or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the bond registrar or paying agent on the payable date in accordance with their respective holdings shown on DTC's records. Payments by Direct Participants and Indirect Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Direct Participant or Indirect Participant and not of DTC (or its nominee), the City or the bond registrar and paying agent, subject to any statutory or regulatory

requirements as may be in effect from time to time. Payment of redemption proceeds, distributions, and dividend payments to Cede & Co (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the bond registrar and paying agent, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct Participants and Indirect Participants.

DTC may discontinue providing its services as depository with respect to the 2013 Bonds at any time by giving reasonable notice to the City and the bond registrar and paying agent. Under such circumstances, in the event that a successor depository is not obtained, the 2013 Bonds are required to be printed and delivered.

The City may decide to discontinue use of the system of book-entry transfers through DTC (or a successor securities depository). In that event, certificates for the 2013 Bonds will be printed and delivered to DTC.

Neither the City nor the bond registrar and paying agent has any responsibility or obligation to the Direct Participants or Indirect Participants or the Beneficial Owners with respect to (a) the accuracy of any records maintained by DTC or any Direct Participant or Indirect Participant; (b) the payment by any Direct Participant or Indirect Participant of any amount due to any Beneficial Owner in respect of the principal of and interest on the 2013 Bonds; (c) the delivery or timeliness of delivery by any Direct Participant or Indirect Participant of any notice to any Beneficial Owner that is required or permitted to be given to Holders; or (d) any other action taken by DTC, or its nominee, Cede & Co., as Holder, including the effectiveness of any action taken pursuant to an Omnibus Proxy.

So long as Cede & Co. is the registered owner of the 2013 Bonds, as nominee of DTC, references in this Official Statement to the Holders of the 2013 Bonds mean Cede & Co. and not the Beneficial Owners, and Cede & Co. will be treated as the only holders of the 2013 Bonds.

The City may enter into amendments to the agreement with DTC or successor agreements with a successor securities depository, relating to the book-entry system to be maintained with respect to the 2013 Bonds without the consent of Beneficial Owners or Holders.

The information in this section concerning DTC and DTC's book-entry system has been obtained from sources that the City believes to be reliable, but the City takes no responsibility for the accuracy thereof.

## **Redemption**

*Optional Redemption.* The 2013 Bonds are subject to redemption before maturity at the option of the City at any time on or after May 1, 2021, from any money available for such purpose, in whole or in part in increments of \$5,000, at par plus accrued and unpaid interest to the date fixed for redemption.

*Mandatory Sinking Fund Redemption.* The 2013 Bonds stated to mature November 1, 2042, are subject to mandatory redemption, in part, on November 1 in the years and at the principal amounts set forth below at a redemption price equal to 100% of the principal amount to be redeemed, plus unpaid interest accrued to the date fixed for redemption:

| <u>Year</u><br><u>(November 1)</u> | <u>Amount</u> |
|------------------------------------|---------------|
| 2039                               | \$2,950,000   |
| 2040                               | 3,100,000     |
| 2041                               | 3,260,000     |
| 2042*                              | 3,425,000     |

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\*Final maturity

*Notice of Redemption.* Any redemption of the 2013 Bonds is required by the Indenture to be made upon notice of redemption given by certified mail to DTC or, if the book-entry only system is discontinued as described above, by first class mail, postage prepaid, not less than 30 nor more than 60 days before the date fixed for redemption, to the registered owners of the 2013 Bonds to be redeemed and to the Municipal Securities Rulemaking Board (the "MSRB"), as set forth in the Indenture.

Each notice of redemption will contain, among other things, the CUSIP identification number and the number of the 2013 Bonds (or portions thereof) being called for redemption, the redemption date and price and the address at which the 2013 Bonds are to be surrendered for payment of the redemption price. Such notice may state that the redemption of the 2013 Bonds to be redeemed is conditioned upon the occurrence of certain future events, including, without limitation, the deposit with the Trustee of moneys sufficient to effect the redemption on or before the date fixed therefor.

Any defect in such notice or the failure to mail any such notice to the registered owner of any 2013 Bond called for redemption will not affect the validity of the proceedings for the redemption of any other 2013 Bond. Any defect in such notice or the failure to mail any such notice to the MSRB will not affect the validity of the proceedings for the redemption of the 2013 Bonds. As long as the book-entry only system is used for determining ownership of the 2013 Bonds, the City shall send notice to DTC or its nominee, or its successor. Any failure of DTC or its nominee or of a Direct Participant or Indirect Participant to notify a Direct Participant, Indirect Participant or Beneficial Owner of any 2013 Bond called for redemption will not affect the validity of the proceedings for the redemption of such 2013 Bond. If less than all of the 2013 Bonds are called for redemption, the maturities of such 2013 Bonds to be redeemed shall be selected by the Director of Finance of the City in such manner as he or she in his or her discretion may determine. So long as a book-entry system is used for determining beneficial ownership of the 2013 Bonds, if less than all of the 2013 Bonds within a maturity are to be redeemed, DTC and its participants shall determine which of the 2013 Bonds within a maturity are to be redeemed.

## **SECURITY AND SOURCES OF PAYMENT FOR THE BONDS**

### **Pledge Under the Indenture**

The 2013 Bonds, all Outstanding Bonds and any Additional Bonds issued under the Indenture (collectively, the "Bonds") are limited obligations of the City payable from Net Revenues and reserves held for such purpose. The term "Net Revenues" is defined in the Indenture as Revenues less Operating Expenses. As defined in the Indenture, "Revenues" include all revenues, receipts and other income derived by the City from the ownership or operation of the System including, without limitation, investment earnings and transfers, if any, from the Rate Stabilization Fund, but excluding (i) any gift, grant or contribution to the extent restricted by the donor or grantor to a particular purpose inconsistent with its use for the payment of debt service on Bonds, Parity Indebtedness or Subordinate Debt, (ii) proceeds derived from insurance or condemnation and (iii) any transfers from the Revenue Fund to the Rate Stabilization Fund. "Operating Expenses," as defined in the Indenture, include all current expenses directly or indirectly attributable to the ownership or operation of the System, but do not include (i) any allowance for amortization or depreciation, (ii) deposits or transfers to the Bond Fund, the Parity Debt Service Fund, the Debt Service Reserve Fund, the Subordinate Debt Service Fund, the Repair and Replacement Reserve Fund or the Rate Stabilization Fund, (iii) payments for Existing Debt Service on City Obligations and (iv) expenditures which the City makes an election to capitalize.

The City may incur "Parity Indebtedness" equally and ratably secured by Net Revenues with the Bonds on terms and conditions similar to those required for the issuance of Additional Bonds. Parity Indebtedness is not secured by the Debt Service Reserve Fund. The City also may issue "Subordinate Debt" secured by a pledge of Net Revenues that is expressly made subordinate to the pledge of Net Revenues securing Bonds or Parity Indebtedness or which is unsecured.

The City has entered into wholesale contracts with the United States Navy, the Western Tidewater Water Authority, and the Cities of Virginia Beach, Chesapeake and Portsmouth. Payments received by the City under these contracts constitute Revenues. See "THE SYSTEM - Wholesale Contracts" below and "Appendix E - SUMMARY OF WHOLESALE CONTRACTS" hereto for a more detailed discussion of these contracts.

Neither the faith and credit of the Commonwealth nor the faith and credit of any county, city, town or other political subdivision of the Commonwealth, including the City, is pledged to the payment of the principal of, premium, if any, or interest on the Bonds, including the 2013 Bonds.

### **Revenue Covenant**

The City has covenanted in the Indenture that it will establish, fix, charge and collect rates, fees and other charges for the use of and for the services furnished by the System, and will, from time to time and as often as appears necessary, revise such rates, fees and other charges, so that in each fiscal year ended June 30 ("Fiscal Year"), Net Revenues are not less than the greater of (i) the sum of 1.1 times debt service on Bonds and Parity Indebtedness and 1.0 times debt service on Subordinated Debt for the Fiscal Year and (ii) 1.0 times the funding requirements for transfers from the Revenue Fund to the Operating Fund, the Bond Fund, the Parity Debt Service Fund, the Debt Service Reserve Fund, the Subordinate Debt Service Fund and the Repair and Replacement Reserve Fund (the "Revenue Covenant").

### **Additional Bonds and Parity Indebtedness**

The City may issue Additional Bonds or Parity Indebtedness for "new money" purposes upon receipt of a written certificate of the Director of Finance or, at the City's option, the Consulting Engineer which states that the amount of the Net Revenues as received during any twelve consecutive months of the twenty-four months immediately preceding the issuance of the Bonds or Parity Indebtedness (the "Test Period"), as adjusted as set forth below, will satisfy the Revenue Covenant for the Test Period taking into account the maximum annual debt service due on (i) the Bonds and Parity Indebtedness then outstanding and (ii) the Bonds or Parity Indebtedness to be issued. The Net Revenues which are permitted to be certified by the Director of Utilities or the Consulting Engineer to the Director of Finance may be adjusted as follows:

(a) If the City has increased the rates, fees or other charges for the services or use of the System, the Net Revenues for the Test Period will be adjusted to include the Net Revenues which would have been derived from the System during the Test Period as if such increased rates, fees or other charges for the services or use of the System had been in effect during the Test Period.

(b) If the City has acquired or has contracted to acquire any privately or publicly-owned existing water system, sewer system, sewage disposal system, solid waste collection or disposal system, stormwater collection or disposal system, or any other utility system that the City will consolidate with the System, the cost of which will be paid from all or part of the proceeds of the issuance of the proposed Bonds or Parity Indebtedness, then the Net Revenues derived from the System during the Test Period will be increased by adding to the Net Revenues for the Test Period the projected Net Revenues which would have been derived from the System if such utility system had been operated by the City as part of the System during the Test Period.

(c) If the City has entered into a contract on or before the date of the issuance of the proposed Bonds or Parity Indebtedness with any public body whereby the City has agreed to furnish services consistent with the services performed by the System, which contract (i) is for a duration of not less than the final maturity of the Bonds or Parity Indebtedness proposed to be issued, or (ii) if less than the final maturity of such Bonds or Parity Indebtedness, contains provisions obligating the party contracting with the City to pay in full its allocated share of capital improvements to the System needed to carry out the terms of the contract, then the Net Revenues of the System during the Test Period will be increased by the least amount which the entity receiving such services will be required to pay by the terms of the contract in any one year during which the City is to furnish such services and such Bonds or Parity Indebtedness are anticipated to be outstanding, after deducting from such payment the estimated amount of operating expenses and repair, renewal and replacement costs attributable in such year to such services.

(d) If there is an estimated increase in Revenues to be received by the City, as a result of additions, extensions or improvements to the System within three years after delivery of the proposed Bonds or Parity Indebtedness and the governing body of the City has taken official action authorizing the additions, extensions or improvements (and if the project involves another jurisdiction, the governing body of that jurisdiction has given appropriate approval), then the Net Revenues derived from the System during the Test Period will be

increased by the average annual additional Net Revenues estimated for the first two full Fiscal Years after such additions, extensions or improvements are placed in service.

See "Appendix A - DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE - Summary of Certain Provisions of the Indenture - Additional Bonds" and "- Parity Indebtedness" for additional information regarding the conditions for the issuance of Additional Bonds and Parity Indebtedness.

### **Debt Service Reserve Fund and Series Reserve Accounts**

The Indenture establishes a Debt Service Reserve Fund which provides additional security for the 2005 Bonds, the 2008 Bonds and the 2010 Bonds (collectively, the "Prior Series") and each Series of Bonds for which the City opts to provide such additional security on a combined basis. As of January 31, 2013, the Prior DSR Requirement was \$7,766,478.13 and the balance in the Debt Service Reserve Fund was \$7,932,608.39, \$1,397,168.76 of which is funded by a surety bond provided by MBIA Insurance Corporation, now a subsidiary of National Public Finance Guarantee Corporation. The Indenture also permits the City to establish a separate account within the Debt Service Reserve Fund for any Series of Bonds other than the Prior Series and provide for the calculation of a separate Debt Service Reserve Requirement for such Series, which may be zero. Such Series of Bonds will have no claim on the other moneys deposited to the credit of the Debt Service Reserve Fund or any account therein. The Debt Service Reserve Requirement for the 2012 Bonds is zero. **The Tenth Supplemental Indenture provides for the establishment of such a separate account in the Debt Service Reserve Fund for the Bonds and provides that the Debt Service Reserve Requirement for the 2013 Bonds is zero.** See "Appendix A - DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE - Summary of Certain Provisions of the Indenture - Debt Service Reserve Fund."

Neither the Debt Service Reserve Fund nor any account therein secures Parity Indebtedness.

### **Other Debt**

The City has issued general obligation bonds from time to time to pay for improvements to the Water System. The City anticipates that transfers described in the following section will be made from the General Reserve Fund to the City's debt service fund to pay the debt service on such general obligation bonds. The City expects that future capital costs for the Water System which are financed with debt will be paid from proceeds of Bonds issued pursuant to the Indenture. Since Fiscal Year 1980, the year in which the City's Water Utility Fund was first operated as a self-supporting enterprise fund, all debt service on general obligation bonds attributable to the System has been paid from revenues of the System. As of June 30, 2012, \$1,838,422 of general obligation bonds attributable to the Water System were outstanding. The final payment on such general obligation bonds is due in Fiscal Year 2015.

### **Flow of Funds**

The Indenture provides that the City will collect and deposit in the Revenue Fund as received all Revenues derived from the ownership or operation of the System, except as otherwise provided for in the Indenture for investment income on certain funds and accounts created by the Indenture. Not later than the fifth business day before the end of each month, the City will make transfers from the Revenue Fund in the following order of priority:

*Operating Fund.* An amount such that the balance on deposit in the Operating Fund will be equal to not less than one-sixth of the Operating Expenses to be paid from the Operating Fund in the then-current Fiscal Year as set forth in the annual budget for the System.

*Bond Fund.* The amount necessary to make the following deposits:

(a) *Interest Account.* An approximately equal amount each month such that (after taking into consideration with respect to each Series of Bonds the amount then on deposit in the Interest Account, any amount to be transferred from the Capitalized Interest Account to the Interest Account pursuant to the terms of any Supplemental Indenture and any amounts to be drawn or paid under any Credit Facility or Hedge Agreement for

deposit to the Account), on the fifth business day immediately preceding the next interest payment date for each Series of Bonds, there will be on deposit in the Interest Account an amount equal to the interest on the Outstanding Bonds of each Series to become due on such Interest Payment Date.

(b) *Principal Account.* An approximately equal amount each month such that (after taking into consideration with respect to each Series of Bonds the amount then on deposit in the Principal Account and any amounts to be drawn or paid under any Credit Facility or Hedge Agreement for deposit to the Account), on the fifth business day immediately preceding the next principal payment date for each Series of Bonds, there will be on deposit in the Principal Account an amount equal to the principal and accreted value of the Outstanding Bonds of each Series maturing or required to be redeemed on such Principal Payment Date.

*Parity Debt Service Fund.* An amount with respect to any Parity Indebtedness such that (after taking into consideration the amount then on deposit in the Fund and any amounts to be drawn or paid under any Credit Facility or Hedge Agreement for deposit to the Fund) if the same amount is transferred to the Fund each month preceding the next ensuing Interest Payment Date or Principal Payment Date for the Parity Indebtedness, there will be on deposit in the Fund an amount equal to the payment due on the Parity Indebtedness on such payment date.

*Debt Service Reserve Fund.* If the amount in the Debt Service Reserve Fund or any account therein is less than its respective Debt Service Reserve Requirement, the amount of money remaining in the Revenue Fund necessary to restore the Debt Service Reserve Fund and the accounts therein to their respective Debt Service Reserve Requirements on a pro rata basis, or all of the money remaining if less than the amount necessary; provided that such restoration of the amount in the Debt Service Reserve Fund and any account therein must occur not later than twelve months following the determination of the deficiency.

*Subordinate Debt Service Fund.* Such amount with respect to any Subordinate Debt as may be determined by the City to be necessary to provide for the payment when due of the principal of and interest on the Subordinate Debt.

*Repair and Replacement Reserve Fund.* The amounts necessary to bring the balance in the Repair and Replacement Reserve Fund to the Replacement Reserve Requirement in not more than (i) thirty-six approximately equal monthly installments for the initial Requirement and (ii) sixty approximately equal monthly installments in the case the Requirement is increased or moneys are withdrawn from the Fund. The "Replacement Reserve Requirement" was initially established and remains at \$1,000,000. The City will review periodically the adequacy of the amount of the Requirement and may increase or reduce (but not below the initial Requirement) such amount. Balances in the Repair and Replacement Reserve Fund may be used to pay for major repairs, additions and other capital improvements to the System and to make deposits to the Revenue Fund, Operating Fund, Bond Fund, Parity Debt Service Fund and Debt Service Reserve Fund.

*Rate Stabilization Fund.* The amounts necessary to bring the balance in the Rate Stabilization Fund to the Rate Stabilization Requirement in not more than twenty-four equal monthly installments. The City will review the adequacy of the amount of the Requirement and may adjust the Requirement at any time as it deems appropriate. Balances in the Rate Stabilization Fund may be transferred to the Operating Fund and will constitute Revenues. The City is not required to maintain any balance in the Rate Stabilization Fund.

*General Reserve Fund.* Any balance remaining in the Revenue Fund, after making the above deposits, will be deposited in the General Reserve Fund. Balances in the General Reserve Fund are not pledged to secure Bonds or Parity Indebtedness and may be used by the City for any lawful purpose. The City agrees to use amounts in the General Reserve Fund to cure any deficiency in the Operating Fund, the Bond Fund, the Parity Debt Service Fund and the Debt Service Reserve Fund. The City anticipates transferring from the General Reserve Fund to the City's general fund an amount equal to the sum of (i) debt service on general obligation bonds of the City issued to pay costs of the System, (ii) a payment in lieu of taxes and (iii) a return to the City for its investment in the System. These transfers to the City's general fund are not required by the Indenture.

In the event there are insufficient funds in the Revenue Fund to make the transfers required by the Bond Fund and the Parity Debt Service Fund, the City will allocate the available funds between the Bond Fund and the

Parity Debt Service Fund in the proportion that the amount required to be deposited to each Fund bears to the total amount required to be deposited to both Funds.

See "Appendix A - DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE" hereto for a further description of the flow of funds.

### **Limits on Enforceability**

The enforceability of the Indenture and the 2013 Bonds is subject to bankruptcy, insolvency, moratorium, reorganization and other state and federal laws affecting the enforcement of creditors' rights and to the extent that certain remedies under such agreements or instruments require, or may require, enforcement by a court, such principles of equity as the court having jurisdiction may impose. See "Appendix A - DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE - Summary of Certain Portions of the Indenture - Events of Default" and "- Remedies; Rights of Bondholders" hereto.

*Bankruptcy.* Chapter 9 of the United States Bankruptcy Code (the "Bankruptcy Code") permits a municipality such as the City, if insolvent or otherwise unable to pay its debts as they become due, to file a voluntary petition for the adjustment of debts provided that such municipality is "specifically authorized, in its capacity as a municipality or by name, to be a debtor..." Bankruptcy Code, §109(c)(2). Current Virginia statutes do not expressly authorize the City or municipalities generally to file under Chapter 9. Chapter 9 does not authorize the filing of involuntary petitions against municipalities such as the City.

Bankruptcy proceedings by the City could have adverse effects on holders of the 2013 Bonds, including (i) delay in the enforcement of their remedies, (ii) subordination of their claims to claims of those supplying goods and services to the City after the initiation of bankruptcy proceedings and to the administrative expenses of bankruptcy proceedings and (iii) imposition without their consent of a plan of reorganization reducing or delaying payment of the 2013 Bonds. The Bankruptcy Code contains provisions intended to ensure that, in any plan of reorganization not accepted by at least a majority of any class of creditors such as the holders of the 2013 Bonds, such class of creditors will have the benefit of their original claim or its "indubitable equivalent," although such "equivalent" may not provide for payment of the 2013 Bonds in full. The effect of these and other provisions of the Bankruptcy Code cannot be predicted and may be significantly affected by judicial interpretation.

### **SOURCES AND USES OF FUNDS**

The expected amounts of the proceeds of the 2013 Bonds and certain other related City funds and the application thereof are as follows:

#### *Sources of Funds:*

|                                          |                                |
|------------------------------------------|--------------------------------|
| Par Amount of the 2013 Bonds             | \$ 43,070,000.00               |
| Original Issue Premium on the 2013 Bonds | <u>7,308,494.40</u>            |
| <i>Total Sources of Funds .....</i>      | <i>\$ <u>50,378,494.40</u></i> |

#### *Uses of Funds:*

|                                  |                                |
|----------------------------------|--------------------------------|
| Project Fund                     | \$ 50,000,000.00               |
| Costs of Issuance <sup>(1)</sup> | <u>378,494.40</u>              |
| <i>Total Uses of Funds .....</i> | <i>\$ <u>50,378,494.40</u></i> |

Note: (1) Includes underwriter's discount and other costs of issuing the 2013 Bonds, including legal, financial advisory, rating and printing.

## DEBT SERVICE REQUIREMENTS

Annual revenue bond debt service requirements on the currently Outstanding Bonds, together with the 2013 Bonds, are shown in the table below. Totals may not sum due to rounding.

| Fiscal<br>Year<br>Ending<br>June 30 | Existing Revenue Bond Debt<br>(as of June 30, 2012) |                       |                       | 2013 Bonds           |                      |                      | Total<br>Revenue<br>Bond Debt |
|-------------------------------------|-----------------------------------------------------|-----------------------|-----------------------|----------------------|----------------------|----------------------|-------------------------------|
|                                     | Principal                                           | Interest              | Total                 | Principal            | Interest             | Total                | Total                         |
| 2013                                | \$ 7,000,000                                        | \$ 14,276,059         | \$ 21,276,059         | \$ -                 | \$ 424,718           | \$ 424,718           | \$ 21,700,777                 |
| 2014                                | 7,250,000                                           | 13,476,719            | 20,726,719            | -                    | 2,153,500            | 2,153,500            | 22,880,219                    |
| 2015                                | 7,805,000                                           | 13,244,769            | 21,049,769            | -                    | 2,153,500            | 2,153,500            | 23,203,269                    |
| 2016                                | 8,750,000                                           | 12,894,294            | 21,644,294            | -                    | 2,153,500            | 2,153,500            | 23,797,794                    |
| 2017                                | 10,655,000                                          | 12,438,019            | 23,093,019            | -                    | 2,153,500            | 2,153,500            | 25,246,519                    |
| 2018                                | 13,860,000                                          | 11,840,769            | 25,700,769            | -                    | 2,153,500            | 2,153,500            | 27,854,269                    |
| 2019                                | 14,820,000                                          | 11,137,744            | 25,957,744            | -                    | 2,153,500            | 2,153,500            | 28,111,244                    |
| 2020                                | 15,665,000                                          | 10,393,269            | 26,058,269            | -                    | 2,153,500            | 2,153,500            | 28,211,769                    |
| 2021                                | 16,760,000                                          | 9,597,644             | 26,357,644            | -                    | 2,153,500            | 2,153,500            | 28,511,144                    |
| 2022                                | 17,740,000                                          | 8,756,644             | 26,496,644            | -                    | 2,153,500            | 2,153,500            | 28,650,144                    |
| 2023                                | 19,005,000                                          | 7,859,944             | 26,864,944            | -                    | 2,153,500            | 2,153,500            | 29,018,444                    |
| 2024                                | 20,140,000                                          | 6,895,394             | 27,035,394            | -                    | 2,153,500            | 2,153,500            | 29,188,894                    |
| 2025                                | 16,780,000                                          | 5,988,019             | 22,768,019            | 1,390,000            | 2,118,750            | 3,508,750            | 26,276,769                    |
| 2026                                | 17,805,000                                          | 5,139,669             | 22,944,669            | 1,465,000            | 2,047,375            | 3,512,375            | 26,457,044                    |
| 2027                                | 10,525,000                                          | 4,448,362             | 14,973,362            | 1,540,000            | 1,972,250            | 3,512,250            | 18,485,612                    |
| 2028                                | 11,115,000                                          | 3,925,012             | 15,040,012            | 1,620,000            | 1,893,250            | 3,513,250            | 18,553,262                    |
| 2029                                | 11,780,000                                          | 3,375,056             | 15,155,056            | 1,700,000            | 1,810,250            | 3,510,250            | 18,665,306                    |
| 2030                                | 6,850,000                                           | 2,939,619             | 9,789,619             | 1,790,000            | 1,723,000            | 3,513,000            | 13,302,619                    |
| 2031                                | 7,190,000                                           | 2,623,800             | 9,813,800             | 1,880,000            | 1,631,250            | 3,511,250            | 13,325,050                    |
| 2032                                | 7,560,000                                           | 2,292,353             | 9,852,353             | 1,975,000            | 1,534,875            | 3,509,875            | 13,362,228                    |
| 2033                                | 5,775,000                                           | 1,988,334             | 7,763,334             | 2,075,000            | 1,433,625            | 3,508,625            | 11,271,959                    |
| 2034                                | 6,045,000                                           | 1,713,981             | 7,758,981             | 2,185,000            | 1,327,125            | 3,512,125            | 11,271,106                    |
| 2035                                | 6,335,000                                           | 1,426,625             | 7,761,625             | 2,295,000            | 1,215,125            | 3,510,125            | 11,271,750                    |
| 2036                                | 6,635,000                                           | 1,128,278             | 7,763,278             | 2,415,000            | 1,097,375            | 3,512,375            | 11,275,653                    |
| 2037                                | 5,515,000                                           | 851,656               | 6,366,656             | 2,535,000            | 973,625              | 3,508,625            | 9,875,281                     |
| 2038                                | 5,770,000                                           | 598,150               | 6,368,150             | 2,665,000            | 843,625              | 3,508,625            | 9,876,775                     |
| 2039                                | 6,030,000                                           | 335,956               | 6,365,956             | 2,805,000            | 706,875              | 3,511,875            | 9,877,831                     |
| 2040                                | 2,555,000                                           | 150,850               | 2,705,850             | 2,950,000            | 563,000              | 3,513,000            | 6,218,850                     |
| 2041                                | 2,660,000                                           | 49,875                | 2,709,875             | 3,100,000            | 411,750              | 3,511,750            | 6,221,625                     |
| 2042                                | -                                                   | -                     | -                     | 3,260,000            | 252,750              | 3,512,750            | 3,512,750                     |
| 2043                                | -                                                   | -                     | -                     | 3,425,000            | 85,625               | 3,510,625            | 3,510,625                     |
| Total                               | <u>\$ 296,375,000</u>                               | <u>\$ 171,786,863</u> | <u>\$ 468,161,863</u> | <u>\$ 43,070,000</u> | <u>\$ 47,754,718</u> | <u>\$ 90,824,718</u> | <u>\$ 558,986,581</u>         |

Source: Department of Finance.

## DEPARTMENT OF UTILITIES

### Introduction

The Department of Utilities (the "Department") operates and maintains the City's water and wastewater systems and oversees the Water and Wastewater Enterprise Funds. For additional information about the City, see "Appendix D - CERTAIN INFORMATION CONCERNING THE CITY" hereto.



The City operates under the council-manager form of government. Policymaking and legislative authorities are vested in the governing City Council, which consists of a mayor and seven-member council. Members of the City Council serve four-year staggered terms. The City Council appoints the City Manager. The City Council is the only body with authority to set water rates and fees charged by the City.

The principal members of the City's management team and their experience are described in Appendix D to this Official Statement.

### **Organizational Structure**

The Department currently employs approximately 290 employees who are grouped into seven divisions. A brief description of each division follows:

|                              |                                                                                                                                                                                                                                                                                                                  |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Director's Office</b>     | Responsible for overall administration of the Department, including public information, human resources and grants management.                                                                                                                                                                                   |
| <b>Water Production</b>      | Responsible for operation and maintenance of water treatment plants and finished water storage facilities. Maintains raw and finished water pump stations and raw water transmission mains. Reviews any encroachments or activities on the reservoirs.                                                           |
| <b>Water Quality</b>         | Responsible for assuring that System water continues to meet state and federal regulations through laboratory analysis and reporting to regulatory agencies. Manages raw water resources.                                                                                                                        |
| <b>Water Distribution</b>    | Responsible for the maintenance of over 800 miles of water mains. Also responsible for repair, replacement and installation of fire hydrants and valves and the detection of leaks in the distribution system. Provides routine flushing of water mains and the installation of service main extensions.         |
| <b>Engineering</b>           | Responsible for engineering design, construction oversight, contract management and capital improvement program development. Also responsible for underground utility identification under the Miss Utility program, and other engineering functions.                                                            |
| <b>Accounting and Budget</b> | Responsible for financial oversight, budgeting and expenditure tracking for all phases of the utility operations. Coordinates with the City's Finance Department to maintain consistency in financial reporting and recordkeeping.                                                                               |
| <b>Water Accounts</b>        | Responsible for handling customer service inquiries concerning billing and establishment and disconnection of services. Coordinates the reading of meters. Also responsible for billing and collection activities in conjunction with joint billing arrangement with Hampton Roads Sanitation District ("HRSD"). |

A summary of the Department's management team and their experience is as follows:

#### **Kristen M. Lentz, P.E., Director of Utilities**

Kristen M. Lentz, P.E., was appointed Acting Director of Utilities in 2001 and Director of Utilities in 2002. Ms. Lentz is a registered professional engineer and has approximately 33 years of professional experience. Prior to her appointment, Ms. Lentz held the positions of Assistant Director of Public Works for the City for nine years and has served as City Engineer and Director of Engineering and Utilities for the City of Poquoson, Virginia. She holds a Bachelor of Science degree in Civil Engineering from Old Dominion University, Norfolk, Virginia. She also serves on the Old Dominion University Civil and Environmental Engineering Visiting Council.

#### **Eric G. Tucker, Assistant Director of Utilities**

Eric G. Tucker, began serving as the Assistant Director of Utilities in August 2008. Prior to his promotion, he served as the Utility Operations Manager for the Department for six years. Mr. Tucker has approximately 28 years of professional experience and has held technical management positions with PEMCCO, Incorporated, and ThyssenKrupp Elevator, as well as engineering positions with URS Corporation, Camp Dresser and McKee, Inc. and CDI Marine Company. Mr. Tucker holds a Bachelor of Science degree in Industrial Technology from Virginia State University, Petersburg, Virginia and a Masters of Business Administration degree from Averett University, Danville, Virginia. He also holds certifications in Work Zone Traffic Control, FEMA Hurricane Recovery and Mitigation and the National Incident Management System.

#### **Chris E. Harbin, Water Production Manager**

Chris E. Harbin has served as the Department's Water Production Manager since February 2010. Mr. Harbin came to the Department with over 29 years' experience in water treatment plant management and operations. His experience includes positions from Waterworks Treatment Plant Operator to Water Treatment Plant Manager. He holds a Bachelor of Science degree in Biology from Christopher Newport University, Newport News, Virginia. Mr. Harbin currently serves on the Virginia Section American Waterworks Association Plant Operations Committee.

#### **Alicia A. Connelly, Water Quality Manager**

Alicia A. Connelly has been with the Department of Utilities since 1985 and was recently promoted in January 2012 as the Department's Water Quality Manager. Prior to her promotion, Ms. Connelly served as both the Assistant Superintendent of Utilities Division and the Water Quality Laboratory Supervisor. Ms. Connelly holds a Bachelor's degree in Biology and Chemistry from Old Dominion University, Norfolk, Virginia, along with numerous certifications for laboratory management, water treatment and management. She is a member in the American Water Work Association (AWWA), Virginia Water Environmental Federation (VWEA), and has served Chairman of the Virginia AWWA/VWEA Laboratory Practice Committee.

#### **Charles L. Dunbar, Operations Manager**

Charles L. Dunbar was appointed the Department's Operations Manager in August 2009. Mr. Dunbar has approximately 15 years of professional experience and held management and supervisory positions with United States Steel Corporation, Corn Products International, Perdue Farms and Norfolk State University. Mr. Dunbar holds a Bachelor of Science degree in Engineering Technology from Virginia State University, Petersburg, Virginia, a Master's degree in Engineering Management from Point Park College, Pittsburgh, Pennsylvania and a Master of Business Administration degree from Strayer University, Washington, D.C.

#### **Kenneth R. Turner, P.E., Engineering Manager**

Kenneth R. Turner, P.E., has served as the Department's Engineering Manager since November 2005. Mr. Turner is a registered professional engineer and has been licensed with the Commonwealth for 25 years. He holds a Bachelor's degree in Civil Engineering from Old Dominion University, Norfolk, Virginia. His responsibilities with the Department include overseeing the City's Capital Improvement Plan (the "CIP") and administering the annual budget which includes replacement of water and sewer pipes throughout the City's water and sewer system, rehabilitation of the 37<sup>th</sup> Street Water Treatment Plant (the "37<sup>th</sup> Street WTP") and significant dam safety improvement projects on the western reservoir system. Prior to working for the City, he served as Regional Manager of Construction Service and as Civil Engineering Manager with the consulting firm of Michael Baker, Jr. Inc.

#### **Robert A. Carteris, Manager of Budget and Accounting**

Robert A. Carteris, the Department's Manager of Budget and Accounting, has worked for the Department since March 2007. Prior to his appointment as Manager of Budget and Accounting, Mr. Carteris had been a senior

financial officer for various European-based multinational companies engaged in manufacturing, international trade, shipping and logistics. He has over 35 years of professional experience in accounting, finance, treasury and administration. He holds a Bachelor of Science degree in Accounting from Manhattan College, New York, New York and a Master of Business Administration and Policy from Baruch College, New York, New York.

#### **Trinette D. Hodges, Customer Service Manager**

Trinette D. Hodges has served as the Department's Customer Service Manager since February 2008. Her responsibilities include overseeing the Department's call center, collection and billing divisions. Ms. Hodges has over 20 years of professional experience and is a member of multiple professional organizations. Prior to joining the Department, she held various management positions in both customer service and quality in the private sector. Ms. Hodges holds a Bachelor of Arts degree in Rhetoric and Communications from the University of Virginia, Charlottesville, Virginia.

#### **Harry C. Kenyon, A.P.R., Management Services Administrator**

Harry C. Kenyon, A.P.R., has served as the Department's Management Services Administrator since October 2008. He has 35 years of public relations experience in federal, state and municipal agencies. Before joining the Department, he was the Public Relations Manager for the Hampton Roads District of the Virginia Department of Transportation and with the City of Chesapeake, Virginia as the Public Works Information Specialist. He also served 22 years in the U.S. Navy as a Chief Journalist and Public Affairs Officer and was assigned as the staff journalist for the Chief of Naval Operations in the Pentagon. He retired from active service in June 1999. He is a graduate of City University, Bellevue, Washington, and the Defense Information School, Fort Benjamin Harrison, Indiana. In 2002, he received his Accreditation in Public Relations from the Universal Accreditation Board of the Public Relations Society of America.

#### **Management Initiatives**

Developments since the City issued the 2012 Bonds include:

- Construction on the Western Branch Dam project is scheduled to begin mid-2013. The \$25 million project includes improving the existing concrete dam structure and obtaining property adjacent to the dam for the construction of an emergency spillway.
- Division of Engineering continued with its CIP program to replace aging infrastructure in the City. During Fiscal Years 2011 and 2012, the division received bids for approximately \$67 million and replaced approximately 98,000 feet of water mains and 106,000 feet of sewer mains.
- The Department saved approximately \$300,000 in energy costs through EnergyConnect program to curtail electricity use during high-demand periods.
- The Department completed a \$10 million renovation to the 37<sup>th</sup> Street WTP, phase 2 and is continuing the design of phase 3 of the project with construction expected to begin in mid-2013. With an estimated cost of \$25 million, phase 3 improvements at the 37<sup>th</sup> Street WTP include installation of deep bed gravity filters, intermediate pump station and ultra-violet disinfection system, conversion of existing clear wells to post-sedimentation storage and replacement of the rapid-mix facilities.
- The Department is replacing the sludge handling equipment used for the residual dewatering process at the Moores Bridges WTP. Other ongoing Moores Bridges WTP improvements include rehabilitation of the solids collection system, installation of low lift pumps, rehabilitating existing sand filters, modifications to chemical feed systems, and various mechanical, electrical and piping equipment.

- The Department completed work on a natural gas engine replacement which runs a 15 mgd pump. This increases System reliability to maintain pressure and uninterrupted delivery of finished water.
- The Department completed the installation of an acid delivery system at two of the raw water wells. The acid delivery system reduces the elevated hardness in the ground water eliminating further water treatment challenges.
- The Utilities Technology team is currently converting the entire SCADA system to a new system utilizing Verizon Wireless cellular modems. This system integrates with the City's current SCADA system and collects treated water flow and pressure data from thirty-seven remote monitoring sites and records it to the central monitoring system at the Moores Bridges WTP. By doing this upgrade in-house with City personnel, projected savings are approximately \$2 million.
- The Department received its new permit to withdraw groundwater on February 1, 2012, from the Virginia Department of Environmental Quality. The permit allows the City to withdraw enough groundwater to withstand the drought of record. It is valid for the next 10 years and authorizes the City to withdraw 13.6 billion gallons over the current permit period. The permit allows the City to maintain its Safe Yield at 92.5 mgd.

Future initiatives of the Department include:

- The continued implementation of the long-term infrastructure renewal plan. The plan will address the condition of dams to meet federal and state dam safety regulations, the upgrade of aging sections of raw and finished water piping and the upgrade of components of the 37<sup>th</sup> Street WTP.
- The marketing of surplus water.

## **THE SYSTEM**

### **History and Overview**

The City developed a surface water supply network starting with the use of a spring near Main Street in the late 1600s, through the development of an in-town lake system in the late 1800s, to the development of Lake Prince and Lake Burnt Mills in the City of Suffolk, Virginia ("Suffolk") and the County of Isle of Wight, Virginia ("Isle of Wight") in 1918 and the Western Branch Reservoir in Suffolk in 1962. In the 1940s through the 1960s the System expanded, and the Blackwater and Nottoway River intakes in the County of Southampton, Virginia ("Southampton") were added. The existing surface water supply is sufficient to meet the 50-year projected water needs of Norfolk's residents and businesses and all current contract and non-contract wholesale requirements.

In order to process water, two water treatment plants have been constructed and maintained. See "THE SYSTEM - Water Treatment Plants" below. The Moores Bridges WTP, constructed in the late 1890s, currently treats all public water consumed in the City of Virginia Beach, Virginia ("Virginia Beach") serves a portion of the City of Chesapeake, Virginia ("Chesapeake"), and treats and supplies portions of the water consumed in the City. The 37<sup>th</sup> Street WTP, originally put into service in the 1920s, supplies water to the remainder of the City. Both treatment plants serve the United States Navy.

Over time, the System has developed and expanded into the major regional provider of water for South Hampton Roads, currently serving an area encompassing a population of approximately 1.1 million, or approximately 10% of the population of the Commonwealth.

The first transmission line to Virginia Beach was installed in 1924, and the City has provided water to its neighbor ever since through long-term water supply contracts. A water services contract provides for the System's wheeling and treating of Virginia Beach raw water, either from Lake Gaston or Stumpy Lake, through Fiscal Year 2030. Additionally, the Navy and Chesapeake are long-standing wholesale treated water customers. Although the City currently has no separate water supply contract with Chesapeake, the City sells water to Chesapeake at a rate of

\$5.68 per 1,000 gallons which increases by 3.5% in subsequent fiscal years. Starting on July 1, 2006, the City also began selling raw water to Chesapeake. See "THE SYSTEM - Wholesale Contracts" below and "Appendix E - SUMMARY OF WHOLESALE CONTRACTS" hereto for further discussion of relationships with the City of Portsmouth, Virginia ("Portsmouth"), Chesapeake, Virginia Beach, the Western Tidewater Water Authority (serving the City of Suffolk and Isle of Wight County) (the "WTWA") and the United States Navy. The City also provides raw water to a U.S. military facility in Portsmouth.

For additional information with respect to the System, see the Feasibility Study which appears as Appendix G to this Official Statement.

## **Water Supply**

The System receives water from a series of eight City-owned water supply reservoirs which are located as follows: three in Suffolk and Isle of Wight (which collectively are known as the "Western Reservoir System"), three in Virginia Beach, and two in Norfolk (which collectively are known as the "In-Town Reservoirs"). The System's current raw water storage capacity is 15.2 billion gallons. These reservoirs are supplemented by two river intakes at the Blackwater and Nottoway Rivers and four ground water wells owned by the City that are available in times of shortages.

As more fully discussed in "THE SYSTEM - Wholesale Contracts" below and in "Appendix E - SUMMARY OF WHOLESALE CONTRACTS" hereto, the City and Virginia Beach entered into the Water Services Contract, as hereinafter defined, to provide for the treatment and delivery of raw water supplied by the City to Virginia Beach, whether from Lake Gaston or Stumpy Lake, up to the contract maximum limit of 45.0 mgd, or 46.8 mgd upon request from Virginia Beach and approval from Norfolk. Under the utility basis of cost recovery for this Contract, Virginia Beach is paying the City its proportionate share of annual operation and maintenance expense, depreciation, and return on specific System facilities used by the City to provide service to Virginia Beach. Such facilities include several expansion and improvement projects to increase the System's capacity to receive Lake Gaston water for treatment at the Moores Bridges WTP; improvements to master water meters; construction of a raw water pumping station, a raw water booster pumping station and a second high service pumping station at the Moores Bridges WTP; construction of raw water and treated water transmission mains; and hydraulic improvements at the Moores Bridges WTP, including improvements to flash mixers, sedimentation basin, filters, plant laboratory, maintenance facilities and administrative offices.

On April 28, 1995, the City commenced the System improvements necessary to treat the Lake Gaston water after the City was requested to do so by Virginia Beach. Under the terms of the Water Services Contract, Virginia Beach is obligated to pay the City for all costs so incurred irrespective of Virginia Beach's ability to continue to provide Lake Gaston water.

*Regional Water Requirements.* The Moores Bridges WTP was expanded to provide for the treatment of up to 45 mgd of raw water that Virginia Beach receives from the Lake Gaston Reservoir. Norfolk is treating this water under a water services contract that went into effect in Fiscal Year 1998. This released 32 mgd of raw water from the Norfolk System that was being sold to Virginia Beach under the then existing water supply contract. The sale of 7 mgd of raw water under the City's wholesale raw water contract with Chesapeake began July 1, 2006. On September 29, 2009, the City entered into a 40-year raw water sales agreement with the WTWA to furnish a minimum of 3 mgd and gradually increasing to 15 mgd by 2038. Norfolk believes that continued growth in the South Hampton Roads area, including Virginia Beach, will generate a demand for this water.

## **Water Treatment Plants**

The City owns and, through the Department, operates two major water treatment plants, the Moores Bridges WTP and the 37<sup>th</sup> Street WTP. The Moores Bridges WTP, with a rated capacity of 108 mgd (maximum day), provides finished water primarily to the eastern two-thirds of the City and Virginia Beach. The 37<sup>th</sup> Street WTP, with a rated capacity of 28 mgd (maximum day), provides finished water primarily to the western one-third of the City. Flow from both treatment plants serves the Navy facilities in Norfolk and the Moores Bridges WTP serves the urban northeastern section of Chesapeake.

Hampton Roads Sanitation District presented the Moores Bridges WTP and the 37<sup>th</sup> Street WTP with the 2010 and 2011 Pretreatment Excellence and Pollution Prevention Awards and in 2011 the 37<sup>th</sup> Street WTP received a Silver award for Industrial Waste & Pretreatment Excellence from the Virginia Water Environment Association.

### **Water Distribution and Storage Facilities**

The System's distribution facilities within Norfolk include two ground level storage tanks with pumping stations, two elevated water storage tanks, approximately 17,520 water valves and approximately 4,697 hydrants. Treated water is distributed throughout the City, to the city limits of Virginia Beach and Chesapeake, and to the gates of the Norfolk Navy facilities by more than 800 miles of water mains. For Fiscal Year 2012, peak-day water production was 76.3 mgd and average day production was approximately 60.2 mgd. Average unaccounted-for treated and raw water was approximately 5.8 mgd. According to the American Water Works Association ("AWWA"), the optimum unaccounted-for water level for efficient distribution systems should be less than 10% of volume of water produced. Nationwide, AWWA reports that water utilities average about 15% unaccounted-for water. For Fiscal Year 2012, the System's unaccounted-for water level was approximately 9.7% which is within AWWA's acceptable levels.

### **Permits**

The City has obtained all governmental permits, licenses, registrations, certificates, authorizations and approvals currently required for the City's ownership and operation of the Water System and is aware of no reason why any such governmental permits, licenses, registrations, certificates, authorizations and approvals to be required in the future cannot be obtained as needed.

### **Mandatory Connection**

Norfolk is a mature city, the land area of which is almost completely developed and served by the Water System's retail distribution facilities. The City Code requires the owner or tenant of any improved piece of property located within the City and bordering upon a street or alley along which a public water line has been laid to connect that same property with such public water supply line and makes it unlawful to use private wells or other alternative facilities where City water lines are available for connection thereto; provided, however, that owners or tenants of residences connected to such lines may use alternative water sources for residential heating and cooling purposes, irrigation and for maintaining residential and related personal property normally kept outdoors.

### **Customer Base**

As of June 30, 2012, the Water System provides potable water to approximately 64,440 active Norfolk retail service customers (i.e. accounts) and wholesale service to the United States Navy, Virginia Beach, Chesapeake, Portsmouth and the WTWA (which includes the City of Suffolk and Isle of Wight County). Population in the area served by the Water System totals approximately 1.1 million people. The average annual daily amount of finished water pumped for Fiscal Year 2012 was 60.2 mgd, including approximately 5.8 mgd of unaccounted-for water and 0.2 mgd of water used for such purposes as street cleaning, firefighting, system flushing and treatment plant usage.

**Table 1**  
**Average Daily Metered Consumption**  
**Fiscal Year 2012**

|                      | <b><u>Metered Consumption (mgd)</u></b> | <b><u>Percent of Total</u></b> |
|----------------------|-----------------------------------------|--------------------------------|
| Norfolk Retail       | 17.1                                    | 30.6%                          |
| Virginia Beach       | 32.4                                    | 58.0                           |
| Navy                 | 4.0                                     | 7.2                            |
| Chesapeake           | <u>2.4</u>                              | <u>4.2</u>                     |
| Total <sup>(1)</sup> | <u>55.9</u>                             | <u>100.0%</u>                  |

Source: Department of Utilities.

Note: (1) Delivery of water to the WTWA is not expected to begin until 2014. Portsmouth purchases raw water only on an emergency basis and is an insignificant daily metered consumer.

Table 2 provides data on the System's ten largest retail customers for Fiscal Year 2012.

**Table 2**  
**Ten Largest Retail Customers**  
**Fiscal Year 2012**

| <b><u>Retail Customer</u></b>               | <b><u>Annual Water Consumption (1,000 gallons)</u></b> | <b><u>Annual Water Consumption as % of Total Consumption of 20,360,974 gallons</u></b> |
|---------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------------|
| Norfolk Redevelopment and Housing Authority | 317,050                                                | 1.56%                                                                                  |
| Old Dominion University                     | 117,586                                                | 0.58                                                                                   |
| Virginia International Terminal             | 108,790                                                | 0.53                                                                                   |
| B.A.E. Systems                              | 102,792                                                | 0.50                                                                                   |
| Sentara Norfolk General Hospital            | 95,345                                                 | 0.47                                                                                   |
| Norfolk State University                    | 71,864                                                 | 0.35                                                                                   |
| S.L. Nusbaum (Property Management)          | 60,846                                                 | 0.30                                                                                   |
| Metro Machine Corporation                   | 45,588                                                 | 0.22                                                                                   |
| Bon Secours DePaul Medical Center           | 40,871                                                 | 0.20                                                                                   |
| N & W Railroad                              | <u>35,732</u>                                          | <u>0.18</u>                                                                            |
| Total                                       | <u>996,464</u>                                         | <u>4.89%</u>                                                                           |

Source: Department of Utilities.

The ten largest retail customers together represent less than 5.0% of total water consumption, and no single retail customer represents more than 1.6% of total consumption.

### **Wholesale Contracts**

The City maintains wholesale contracts or water service agreements with Chesapeake, Virginia Beach, Portsmouth, the Navy and the WTW. These contracts and agreements set forth the amount of water to be sold, rate setting procedures, metering points, dispute resolution and other matters.

The descriptions of the contracts and agreements set forth below are brief outlines or summaries of certain provisions. For a more detailed description of the contracts and agreements see "Appendix E - SUMMARY OF WHOLESALE CONTRACTS" hereto. The outlines and summaries set forth above and in Appendix E do not purport to be complete, and reference should be made to each respective contract or agreement. Copies of the contracts and agreements may be obtained from the City for a full and complete statement of their provisions.

*City of Virginia Beach.* On July 14, 1993, the City entered into a water sales contract (the "Water Sales Contract") and a water services contract (the "Original Water Services Contract") with Virginia Beach. The Water Sales Contract served as an interim arrangement for the sale of surplus System water to Virginia Beach pending completion of the Lake Gaston Project. Beginning on January 1998, the Original Water Services Contract provided for the City's treatment and delivery of potable Lake Gaston water to Virginia Beach now that the Lake Gaston Project is completed. In 2001, the Original Water Services Contract was amended and restated (as amended and restated, the "Water Services Contract"). As of June 2004, the Water Services Contract covers the use of Virginia Beach's Stumpy Lake raw water source in conjunction with Lake Gaston water.

The Water Services Contract is a long-term contract (effective through June 30, 2030) which requires the City to receive, convey, treat and deliver to Virginia Beach up to an average of 45 mgd, or 46.8 mgd upon Virginia Beach's request and Norfolk's approval, of finished water to be provided from Virginia Beach's two raw water sources. The Water Services Contract establishes engineering, water quality and operational standards for the City to meet as it provides service to Virginia Beach. Accordingly, certain components of the System, including raw water storage, raw water pumping stations and transmission lines, water treatment plants and treated water storage, and finished water pumping and transmission facilities, will be utilized to provide treated water to Virginia Beach. The Water Services Contract also provides that Virginia Beach will pay its proportionate share of the capital costs of the System irrespective of Virginia Beach's ability to provide raw water.

Certain components of the payments required by the Water Services Contract are not related to actual water usage. All payments by Virginia Beach under the Water Services Contract are secured solely by revenues received by Virginia Beach from charges paid by users of its water and sewer system. The Water Services Contract requires that such payments be designated by Virginia Beach as operating expenses of its water and sewer system and, as such, are payable ahead of debt service on future general obligation bonds and revenue bonds paid from Virginia Beach water and sewer system revenues. The Water Services Contract may be terminated by the City or by Virginia Beach upon the occurrence of various events.

*City of Chesapeake.* The City sells Chesapeake wholesale finished water at various delivery points for service to the northeastern section of Chesapeake. Sales in Fiscal Year 2012 averaged 2.4 mgd which represents approximately 4.2% of the System's total metered water consumption. Rates are set by ordinance of the City Council.

In December, 2002, the City entered into a raw water sales contract with Chesapeake for the sale of a portion of the City's surplus raw water to Chesapeake. The contract start-up date was July 1, 2006, and the term is through December 31, 2042. The contract specifies the terms and conditions of the sale, rates, termination provisions and dispute resolution. This is a "take or pay" contract for 7 mgd. Raw water sales averaged 7.2 mgd in Fiscal Year 2012. In the contract, the City agrees to sell and deliver to Chesapeake and Chesapeake agrees to accept a targeted amount of raw water transmitted to the extent possible at a uniform flow rate.



The current water rate is \$1.21 per thousand gallons of surplus raw water sold. Each July 1, the then existing water rate shall be adjusted based on the change in the Consumer Price Index, but in no instance shall the water rate decrease. Chesapeake began making monthly payments for the metered amount of surplus raw water delivered on August 1, 2006.

*City of Portsmouth.* In 2002, the City entered into a contract with Portsmouth for the sale of emergency raw water. Portsmouth has constructed the necessary improvements to convey the raw water to its treatment facility. According to the contract, the City shall endeavor to deliver and sell to Portsmouth up to 10 mgd of temporary surplus raw water. The current water rate is \$1.21 per thousand gallons of surplus raw water sold. In of Fiscal Year 2011 the City sold Portsmouth approximately 0.24 mgd of raw water and none in Fiscal Year 2012.

*United States Navy.* The City has a long-standing history of providing water to the United States Navy ("Navy") on a wholesale basis. While the City and the Navy negotiate a multi-year agreement, they have entered into a series of multi-month agreements for the supply of water. The current agreement expires in March 2013. Sales to the Navy averaged 4.0 mgd in Fiscal Year 2012, which represents approximately 7.2% of total metered water consumption for the System.

*Western Tidewater Water Authority.* In Fiscal Year 2009, the City entered into a "take or pay" agreement with the WTWA, with a required minimum volume purchase. The agreement expires June 30, 2048. Delivery of water is anticipated to begin in 2014.

## **The Service Area**

The System's current service area covers approximately 334 square miles and includes the City, Virginia Beach and the urban northeastern section of Chesapeake, as well as naval installations in the City, Virginia Beach and Portsmouth. This service area is part of what is commonly known as South Hampton Roads. These jurisdictions vary greatly in population and character. Virginia Beach and the City have the first and second largest populations of any cities in the Commonwealth, respectively. Chesapeake, currently the third largest city in the Commonwealth, is experiencing rapid population growth, and has significant land available for residential and commercial development. Ranked by geographical size, Chesapeake is the second largest city in the Commonwealth and Virginia Beach is third. The City is the most densely populated of the three communities and has extensive waterfront development and the region's central business district. See "Appendix D - CERTAIN INFORMATION CONCERNING THE CITY" hereto.

Virginia Beach and Chesapeake have grown to a degree that they are no longer only suburban, though both still serve as residential communities for many working in the City. Virginia Beach has the highest income and property values in the region and also is a resort city with over 12,000 hotel rooms and a significant tourist industry along its beachfront. Both cities promote industrial growth and each has extensive agriculture activity in its southern area.

Table 3 summarizes population trends from 1980 through 2012.

**Table 3**  
**Population**  
**1980 – 2012**

| <u>Area</u>       | <u>1980</u> | <u>1990</u> | <u>2000</u> | <u>2010</u> | <u>2012</u> |
|-------------------|-------------|-------------|-------------|-------------|-------------|
| Norfolk           | 266,979     | 261,250     | 234,463     | 242,803     | 245,803     |
| Virginia Beach    | 262,199     | 393,689     | 425,257     | 437,994     | 447,489     |
| Chesapeake        | 114,486     | 151,982     | 199,184     | 222,209     | 228,210     |
| Hampton Roads MSA | 1,160,311   | 1,430,974   | 1,533,739   | 1,648,136   | 1,679,326   |
| Commonwealth      | 5,346,279   | 6,189,197   | 7,078,515   | 8,001,024   | 8,185,861   |
| United States     | 226,504,825 | 249,632,692 | 281,421,906 | 308,745,538 | 313,914,040 |

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Sources: U.S. Bureau of the Census and the Weldon Cooper Center for Public Services, University of Virginia (the "Weldon Cooper Center").

Table 4 provides per capita income comparisons from 2007 through 2011.

**Table 4**  
**City of Norfolk, Virginia**  
**Per Capita Personal Income Comparisons**  
**2007 – 2011**

| <u>Year</u> | <u>Norfolk</u> | <u>Hampton Roads MSA</u> | <u>State</u> | <u>U.S.</u> |
|-------------|----------------|--------------------------|--------------|-------------|
| 2007        | 34,375         | 38,689                   | 43,261       | 39,506      |
| 2008        | 35,330         | 40,146                   | 44,691       | 40,947      |
| 2009        | 34,690         | 39,325                   | 43,192       | 38,846      |
| 2010        | 35,816         | 40,234                   | 44,267       | 39,937      |
| 2011        | 36,873         | 41,976                   | 46,107       | 41,560      |

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Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System.

The City has the largest concentration of naval installations in the world. These installations include (i) the Norfolk Naval Base which is the home port for over 100 ships and is one of only two Navy ports on the east coast that can accommodate aircraft carriers; (ii) the Supreme Allied Atlantic Command of the North American Treaty Organization ("NATO"), which is the only NATO facility in the United States; (iii) the headquarters of the Navy's Atlantic Fleet; (iv) the Norfolk Air Station; and (v) several other major Navy commands. The Norfolk Naval Base, located in the City along the Chesapeake Bay, has been a major military installation since World War I. Hampton Roads is the largest center of Coast Guard units in the world with the Atlantic Area Command and Maritime Defense Zone Atlantic in Portsmouth and its Maintenance & Logistic Command Atlantic headquarters in downtown Norfolk.

The Navy's direct economic impact on the region was \$14.9 billion in 2011, comprised of a total annual payroll of \$8.6 billion and the balance consumed on goods and services and procurement contracts. The City expects to continue as a center of activity for the Navy with current total personnel (military and civilian) of nearly

70,000. There were 83,095 active-duty Navy military personnel in Hampton Roads in 2011, of which 59% were assigned to Norfolk.

The Navy's newest local command, the Navy Reserve Forces Command, relocated to Norfolk from New Orleans in 2009. The Reserve Forces Command is the global headquarters for more than 68,000 reserve sailors and brought approximately 450 military and civilian employees to Hampton Roads. The Reserve Forces Command is responsible for readiness, oversight, manpower management, logistics, mobilization and training of reserve sailors.

This federal presence in the economy tends to smooth out fluctuations in the business cycle and to reduce the severity of recessions. Unemployment in the Hampton Roads area has historically been below the national average, especially during economic downturns. Although the military remains a key component of Hampton Roads' economy, the City has successfully diversified its economic base in recent years.

Annual employment figures and unemployment rates are shown in Table 5 and Table 6, respectively.

**Table 5**  
**Employment**  
**2008 – 2012**

| <u>Year</u>         | <u>Norfolk</u> | <u>Virginia Beach</u> | <u>Chesapeake</u> |
|---------------------|----------------|-----------------------|-------------------|
| 2008                | 95,156         | 216,793               | 111,647           |
| 2009                | 91,563         | 209,432               | 109,102           |
| 2010                | 90,948         | 208,026               | 108,370           |
| 2011                | 98,291         | 217,179               | 111,771           |
| 2012 <sup>(1)</sup> | 99,144         | 219,063               | 112,741           |

Source: U.S. Department of Labor, Bureau of Labor Statistics, Local Area Unemployment Statistics, Virginia Employment Commission.

Note: (1) Figures as of December 2012.

**Table 6**  
**Unemployment Rates**  
**2008 – 2012**

| <u>Year</u>         | <u>Norfolk</u> | <u>Virginia Beach</u> | <u>Chesapeake</u> | <u>Hampton Roads MSA</u> | <u>Virginia</u> | <u>U.S.</u> |
|---------------------|----------------|-----------------------|-------------------|--------------------------|-----------------|-------------|
| 2008                | 5.3%           | 3.7%                  | 3.9%              | 4.2%                     | 4.0%            | 5.8%        |
| 2009                | 8.7            | 6.1                   | 6.5               | 7.0                      | 6.8             | 9.3         |
| 2010                | 8.0            | 6.4                   | 6.9               | 7.4                      | 6.9             | 9.6         |
| 2011                | 8.4            | 6.1                   | 6.4               | 7.0                      | 6.2             | 8.9         |
| 2012 <sup>(1)</sup> | 7.2            | 5.4                   | 5.5               | 5.9                      | 5.4             | 7.6         |

Source: U.S. Department of Labor, Bureau of Labor Statistics, Local Area Unemployment Statistics, Virginia Employment Commission.

Note: (1) Figures as of December 2012.

Manufacturing activities in the region include shipbuilding and repair, food processing, paper milling and assorted light assembly operations. The region's harbor is host to a variety of firms which engage in import and export activities. Appalachian coal is the principal export product although significant amounts of grain and general cargo also are exported. The volume of imports is considerably less than exports and is primarily general cargo.

Tourism, along with a growing convention business, is an additional source of regional income. General farming is the area's primary agricultural activity.

### CAPITAL IMPROVEMENT PROGRAM

In Fiscal Year 2004, the City embarked on a ten-year, \$170 million water system rehabilitation and replacement program to upgrade certain aging infrastructure components of the Water System. The City Council approved Ordinance Number 41,047 on May 20, 2003, which provided a series of three \$0.33 per 1,000 gallon rate increases for Fiscal Years 2004 through 2006, and annual increases of 3.50% each July 1 thereafter, until amended. This series of gradual and predictable finished water retail rate adjustments position the System to support this program.

The City annually prepares a five-year CIP for the System incorporating all known capital costs over that period. Future year projects in the CIP are considered for planning purposes only until funds are provided and may be modified, at any time, by the City Council. The approved CIP for Fiscal Years 2013 through 2017 includes projects which are estimated to cost \$97,350,000. These projects are classified in the following categories: (i) facility renovations and upgrades; (ii) retail water distribution system improvements; and (iii) regulatory driven projects. The anticipated timing of project costs associated with the current CIP is shown in Table 8.

**Table 8**  
**Capital Improvement Plan**  
**(Fiscal Year Ending June 30)**

|                                                         | Approved            |                     | Planned             |                     |                     | Total               |
|---------------------------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|                                                         | 2013                | 2014                | 2015                | 2016                | 2017                |                     |
| Comply with Safe Drinking Water Act Amendments          | \$ -                | \$ 80,000           | \$ 160,000          | \$ 50,000           | \$ -                | \$ 290,000          |
| Design & Construct 37 <sup>th</sup> Street WTP          | -                   | -                   | 5,000,000           | -                   | -                   | 5,000,000           |
| Implement Automated Meter Reading System                | -                   | 300,000             | -                   | -                   | -                   | 300,000             |
| Implement Meter Change Out Program                      | -                   | 150,000             | 150,000             | 150,000             | 150,000             | 600,000             |
| Improve Little Creek Dam                                | 200,000             | -                   | -                   | -                   | -                   | 200,000             |
| Install Generator and Little Creek Booster Pump Station | -                   | 150,000             | -                   | -                   | -                   | 150,000             |
| Rehabilitate Reservoirs System-Wide                     | 275,000             | -                   | -                   | -                   | 500,000             | 775,000             |
| Replace Master Meters                                   | 120,000             | -                   | 120,000             | -                   | 120,000             | 360,000             |
| Replace Spillway on Lake Taylor Dam                     | 75,000              | -                   | -                   | -                   | -                   | 75,000              |
| Replace or Rehabilitation Water Pipelines               | 18,200,000          | 18,200,000          | 18,200,000          | 18,200,000          | 12,000,000          | 84,800,000          |
| Upgrade Moores Bridges WTP                              | -                   | 1,500,000           | -                   | -                   | 3,000,000           | 4,500,000           |
| Upgrade Northstar Billing System                        | -                   | 300,000             | -                   | -                   | -                   | 300,000             |
| Subtotal Water Utility                                  | <u>\$18,870,000</u> | <u>\$20,680,000</u> | <u>\$23,630,000</u> | <u>\$18,400,000</u> | <u>\$15,770,000</u> | <u>\$97,350,000</u> |

Source: City of Norfolk, Virginia, Fiscal Year 2013 Approved Capital Improvement Plan.

The major near-term projects consist of upgrades to the raw water reservoir dams and spillways, raw water transmission pipelines, distribution system piping, phased rehabilitation of the 37<sup>th</sup> Street WTP, and upgrades at the Moores Bridges WTP. These improvements will be followed by subsequent rehabilitation of the raw water pumping stations at the river intakes, and repair and continued replacement of critical portions of the raw water transmission mains and of the distribution system. Improvements to the lake aeration system at the City's Western Branch reservoir is complete and similar improvements at the Lake Prince reservoir will be completed in the near future. These improvements will allow the City to provide continuous operation of the System and meet proposed regulatory requirements.

Norfolk's Water System as it exists can be expected to provide adequate capacity to meet demand for the foreseeable future. Norfolk's treated water currently meets all physical, chemical, radiological and bacteriological water quality standards established by Federal and State regulations. The Department of Utilities actively plans and implements improvements to Norfolk's water treatment facilities to meet current and proposed regulations of the amendments to the 1986 Safe Drinking Water Act. The City has initiated projects to upgrade dated facilities, provide redundancy and for the handling and disposal of residuals from the water treatment plants in an environmentally sound manner. Management believes the CIP expenditure reasonably addresses current and proposed federal and state regulations regarding safe drinking water, dam safety, and environmental protection. While there are some potential contaminants that may be incorporated into future Safe Drinking Water Act amendments, there are no pending regulations that will appear to impact the improvements planned in the five-year CIP.

Operation of the System requires compliance with environmental laws and regulations. For a more detailed representation of regulatory driven capital improvements, see the Feasibility Study included as Appendix G to this Official Statement. The Feasibility Study, however, does not purport to be a complete, comprehensive or definitive summary of all currently required or proposed water quality laws and regulations. Future legislative and regulatory proposals applicable to the System could result in increased capital or operating costs beyond those currently projected by the City.

Proceeds from the 2013 Bonds, together with other available funds, are expected to pay the cash flow requirements of CIP and current construction-work-in-progress project costs to be incurred through Fiscal Year 2015.

The estimated project costs indicated above are based upon the City's assumptions of future events and existing practices which are subject to revision as actual water utility operating results, regulatory requirements and City policy changes dictate. For a detailed description of the CIP, see the Feasibility Study included as Appendix G to this Official Statement.

The City expects to issue Additional Bonds under the Indenture in Fiscal Year 2015 to finance portions of the remaining cash flow of project costs in the CIP and construction-work-in-progress to be incurred through Fiscal Year 2017. The City currently intends to pay for all future System capital costs from the Revenues of the System and proceeds of Bonds.

The estimated project costs indicated above are based upon the City's assumptions of future events and existing practices which are subject to revision as actual water utility operating results, regulatory requirements and City policy changes dictate.

### **Protected Self-Insurance Program**

The City, including the System, are exposed to various risks of losses related to torts; theft and destruction of assets; errors and omissions; injuries to employees; and natural disasters. On July 11, 1978, the City established a protected Self-Insurance Program Fund, pursuant to an ordinance adopted by the City Council, to cover itself from these risks of losses. The program provides for the payment of claims liabilities, property losses and related expenses covered by a combination of purchased insurance policies and self-insurance plans. The total of insurance premiums, self-insurance claims and related expense payments made during Fiscal Year 2012 was \$6,660,414.

The City currently reports all these activities as part of the risk management function in the general government section of the General Fund. Claims expenditures and liabilities are reported when it is probable that a loss has occurred and the amount of that loss can be reasonably estimated. At June 30, 2012, these liabilities were \$31,400,391 of which \$3,649,622 represents the current portion anticipated to be paid within a year. Estimated liabilities for Fiscal Year 2012 were determined by an independent actuary.

Changes in the City's claims liability amount in the Fiscal Years 2008 through 2012 are as follows:.

| <u>Fiscal Year</u><br><u>Ended June 30</u> | <u>Unpaid Claims</u><br><u>Beginning Balance</u> | <u>Claims Incurred</u><br><u>Estimated</u> | <u>Claims Paid</u> | <u>Ending Balance</u> |
|--------------------------------------------|--------------------------------------------------|--------------------------------------------|--------------------|-----------------------|
| 2008                                       | \$25,066,660                                     | \$12,313,224                               | \$12,305,870       | \$25,059,306          |
| 2009                                       | 25,059,306                                       | 14,134,010                                 | 4,686,127          | 34,507,189            |
| 2010                                       | 34,507,189                                       | 174,757                                    | 4,411,759          | 30,270,187            |
| 2011                                       | 30,270,187                                       | 5,628,197                                  | 4,225,302          | 31,673,082            |
| 2012                                       | 31,673,082                                       | 4,403,895                                  | 4,676,586          | 31,400,391            |

Sources: City of Norfolk, Virginia, Comprehensive Annual Financial Report, Fiscal Year Ended June 30, 2008 through 2012.

## **FINANCIAL MANAGEMENT**

### **Overview**

On July 1, 1979, the City Council established the Water Utility Fund (the "Fund") as a distinct enterprise fund of the City to account for all of the financial activity related to providing water services to its customers. The Fund is operated on a self-supporting basis.

Since its inception, regular transfers have been made from the Fund to the City's general fund for payments in lieu of taxes and as a return on the City's investment in the System. Additionally, transfers have been made to pay all debt service on general obligation bonds issued by the City to pay for System improvements. The Fund is reported on an accrual basis of accounting. Included in Appendix B hereto are the audited financial statements for the Fund for the Fiscal Years 2011 and 2012.

### **Rate Regulation**

The power of the City to fix, charge and collect rates, fees and other charges for the use of and for the services furnished by the System is not subject to the regulatory jurisdiction of the State Corporation Commission of Virginia or any other federal, regional, state or local regulatory body. Subject to existing contractual commitments, the City has sole and exclusive authority over such rates, fees and other charges.

### **Water Rates**

Retail rate recommendations are developed prior to the City's budgetary process. Retail rates are set by City Council. Formula-driven wholesale rate revisions are not submitted annually for City Council approval, as they were part of the original contract approval. The Department uses a retail rate structure comprised of a uniform rate per thousand gallons, with no quantity discount or lifeline rate, and a uniform service charge per bill. A historical summary of the City's water and wastewater rates is shown in Table 9.

Norfolk's Retail Rate structure consists of a monthly water service charge and a uniform commodity rate. For Fiscal Year 2013, which began July 1, 2012, the monthly Water Account Service Charge is \$1.00 and the Water Rate is \$4.15 per Ccf. Norfolk also charges for fire protection, with rates that vary by the size of connection.

**Table 9**  
**Summary of Historical Water Rates**

| <b>Rates Per 100 Cubic Feet</b> |                     |                        |
|---------------------------------|---------------------|------------------------|
| <b><u>Fiscal Year</u></b>       | <b><u>Water</u></b> | <b><u>% Change</u></b> |
| 2004                            | \$2.76              | 10.0%                  |
| 2005                            | 3.01                | 9.1                    |
| 2006                            | 3.26                | 8.3                    |
| 2007                            | 3.37                | 3.4                    |
| 2008                            | 3.49                | 3.6                    |
| 2009                            | 3.61                | 3.4                    |
| 2010                            | 3.74                | 3.6                    |
| 2011                            | 3.87                | 3.5                    |
| 2012                            | 4.01                | 3.6                    |
| 2013                            | 4.15                | 3.5                    |
| 10-Year Average:                | \$3.53              | 5.2%                   |

Source: Department of Utilities.

The System's retail customers' average annual cost for Fiscal Years 2008 through 2012 are shown in Table 10 for ease of comparison with wholesale customers' average annual costs during the same period shown in Tables 11, 12 and 13.

**Table 10**  
**Retail Customers' Average Annual Costs**  
**Norfolk Retail**  
**2008 – 2012**

| <b><u>Fiscal Year</u></b> | <b><u>Revenue</u></b> | <b><u>Volume (Mgal<sup>1</sup>)</u></b> | <b><u>Average Cost (\$/Mgal<sup>1</sup>)</u></b> |
|---------------------------|-----------------------|-----------------------------------------|--------------------------------------------------|
| 2008                      | \$34,641,000          | 7,061,000                               | \$4.91                                           |
| 2009                      | 32,847,000            | 6,627,000                               | 4.96                                             |
| 2010                      | 33,401,000            | 6,432,000                               | 5.19                                             |
| 2011                      | 34,472,000            | 6,362,000                               | 5.42                                             |
| 2012                      | 34,784,000            | 6,235,000                               | 5.58                                             |

Source: Department of Utilities.

Note: (1) "Mgal" means 1,000 gallons

The rates from the wholesale contract with Virginia Beach are formula driven based on projected operating and capital cashflow expenditures for two years. Virginia Beach's bills reflect a three part rate structure. Two parts of the rate structure are fixed monthly charges which recover proportional share of costs for system capacity designed to serve, and used by, Virginia Beach and for non-variable operation and maintenance costs. The third part

of the rate structure is a uniform rate which recovers Virginia Beach's proportional share of variable operation and maintenance costs based on current use. Chesapeake's single uniform rate is based on an equivalent retail rate that recovers costs associated with the City's retail service charge and uniform rate.

**Table 11**  
**Wholesale Customers' Average Annual Costs**  
**Virginia Beach**  
**2008 – 2012**

| <u>Fiscal Year</u> | <u>Revenue</u> | <u>Volume (Mgal)</u> | <u>Average Cost (\$/Mgal)</u> |
|--------------------|----------------|----------------------|-------------------------------|
| 2008               | \$23,061,000   | 12,999,800           | \$1.77                        |
| 2009               | 25,257,000     | 12,344,100           | 2.05                          |
| 2010               | 26,742,000     | 12,189,000           | 2.19                          |
| 2011               | 28,703,000     | 12,307,800           | 2.33                          |
| 2012               | 25,519,000     | 11,815,200           | 2.16                          |

Source: Department of Utilities.

**Table 12**  
**Wholesale Customers' Average Annual Costs**  
**U.S. Navy, including Norfolk and Virginia Beach Facilities**  
**2008 – 2012**

| <u>Fiscal Year</u> | <u>Revenue</u> | <u>Volume (Mgal)</u> | <u>Average Cost (\$/Mgal)</u> |
|--------------------|----------------|----------------------|-------------------------------|
| 2008               | \$8,319,000    | 1,624,000            | \$5.12                        |
| 2009               | 8,112,000      | 1,536,000            | 5.28                          |
| 2010               | 8,108,000      | 1,479,000            | 5.48                          |
| 2011               | 8,837,000      | 1,562,000            | 5.66                          |
| 2012               | 8,534,000      | 1,454,000            | 5.87                          |

Source: Department of Utilities.

**Table 13**  
**Wholesale Customers' Average Annual Costs**  
**Chesapeake**  
**2008 – 2012**

| <u>Fiscal Year</u> | <u>Revenue</u> | <u>Volume (Mgal)</u> | <u>Average Cost (\$/Mgal)</u> |
|--------------------|----------------|----------------------|-------------------------------|
| 2008               | \$5,461,000    | 1,149,000            | \$4.75                        |
| 2009               | 5,860,000      | 1,182,000            | 4.96                          |
| 2010               | 6,048,000      | 1,180,000            | 5.13                          |
| 2011               | 4,299,000      | 803,000              | 5.35                          |
| 2012               | 4,691,000      | 856,000              | 5.48                          |

Source: Department of Utilities.



As shown in Table 14, the System's charges compare favorably with other providers of water in the region.

**Table 14**  
**Select Water Charges in the Region**  
**(as of July 1, 2012)**

| <u>City</u>    | <u>Monthly Water Charges for Median Household<sup>(1)(2)</sup></u> |
|----------------|--------------------------------------------------------------------|
| Chesapeake     | \$31.03                                                            |
| Norfolk        | 25.90                                                              |
| Newport News   | 24.18                                                              |
| Portsmouth     | 26.34                                                              |
| Virginia Beach | 24.20                                                              |

Source: Department of Utilities.

- Notes: (1) Based on estimated average consumption of 6 CCF per month.  
(2) Excludes utility taxes levied by the City.

#### **Billing, Collections and Enforcement Procedures**

The Department bills for water monthly using a billing and information system that combines account, work order, meter and customer service management. Effective May 1994, the Department implemented a joint billing program with HRSD, a political subdivision of the Commonwealth that provides wastewater treatment to the Hampton Roads region. This program has resulted in annual billing and collection efficiencies to the City and HRSD of approximately 99.5%.

Meters are read on a monthly basis. Billing data is transmitted to the Hampton Roads Utility Billing System, which is managed by HRSD, for the inclusion with HRSD's billing of wastewater treatment, resulting in bills mailed within two days from when meters are read. The Department uses estimated billing only in extraordinary circumstances.

The Department has a collection staff that actively pursues the collection of past due bills in coordination with the City's Law Department and HRSD. Extensive efforts are directed towards collection of delinquent accounts. Water customers are subject to having their water service discontinued if payments are delinquent by more than 45 days. Water service is restored when full payment is received or an acceptable payment plan is arranged. Delinquent bills are pursued with the use of property liens, payment arrangements and through the court system. Accounts are written off after they have been inactive for three years and collection efforts have not been successful. The Department participates in the State Debt Set-Off Program, which provides a way for the Department to have delinquent account balances, which contain the customer's social security number, withheld from the customer's Virginia State Income Tax refund or Virginia Lottery winnings. Write-offs must be approved by City Council. Historical write-offs of bad debt for Fiscal Years 2008 through 2012 are shown in Table 15.

**Table 15**  
**Water Utility Fund**  
**Bad Debt Write-off**  
**2008 - 2012**

| <b><u>Fiscal Year</u></b> | <b><u>Years Written Off</u></b> | <b><u>Amount</u></b> | <b><u>Corresponding Billed Water Revenue<sup>(1)</sup></u></b> | <b><u>% of Net Charges for Services</u></b> |
|---------------------------|---------------------------------|----------------------|----------------------------------------------------------------|---------------------------------------------|
| 2008                      | None                            | \$ 0                 | \$ 0                                                           | 0.00%                                       |
| 2009                      | 2003                            | 243,498              | 63,785,185                                                     | 0.38                                        |
| 2010                      | 2004, 2005 and 2006             | 702,517              | 196,184,906                                                    | 0.35                                        |
| 2011                      | 2007                            | 254,661              | 75,691,666                                                     | 0.33                                        |
| 2012                      | 2008                            | 376,066              | 76,459,405                                                     | 0.49                                        |

Source: Department of Utilities.

Note: (1) Corresponding Billed Water Revenue relates to revenue billed for the years in which the accounts receivable originate.

#### **Reserves Policy**

The City believes for the Water System to operate effectively as a utility enterprise, sound financing dictates that it is both prudent and appropriate to provide an Operating Fund reserve to accommodate normal fluctuations in expenditures for utility operations and to provide a Repair and Replacement Reserve to permit immediate funding for unforeseeable emergency capital needs. These reserves are in addition to the normal flow of working capital funds. This practice is consistent with the requirements of the Indenture.

The Water Utility Fund is meeting or exceeding all requirements for various reserve funds.

- Operating Fund, to maintain a balance of one-sixth of each year's budgeted operating expenses excluding debt service, capitalized operation and maintenance expense, and payments to the General Fund. This equates to payment of O&M expenses as they are incurred, and maintaining approximately sixty days of budgeted O&M expenses as a working capital reserve. The balance of the Operating Fund at June 30, 2012, was \$7,000,000.
- Repair and Replacement Reserve Fund, such amounts as may be determined by the City to establish, sustain or increase the reserve level from the initial \$1,000,000 balance. The balance of the Repair and Replacement Reserve Fund at June 30, 2012, was \$2,000,000.
- Rate Stabilization Fund, such amounts as may be necessary to accumulate the Rate Stabilization Requirement for use in mitigating impacts of projected future rate increases, and anticipated true-ups of wholesale customer revenues. The Rate Stabilization Requirement is \$0; however, the balance of the Rate Stabilization Fund at June 30, 2012, was \$2,000,000.
- General Reserve Fund, to use first to cure any deficit which may exist in the Operating Fund, the Bond Fund, the Parity Debt Service Fund, the Debt Service Reserve Fund, the Repair and Replacement Fund and the Rate Stabilization Fund, and then for any lawful purpose the General Reserve Fund reflects quick available funds (current cash and short term investments). The balance of the General Reserve Fund at June 30, 2012, was in excess of \$45,000,000.

## Budget Process

The Department prepares an annual budget for the Fund in conformity with the City's requirements and procedures for the ensuing Fiscal Year. An interactive process is used during this review, involving personnel from the Department of Finance and the Office of Budget and Management.

The Fund is accounted for on a full accrual basis which recognizes and records expenses and business services when goods and services are received and revenues when earned. The budget is prepared on a cash basis and non-cash items such as depreciation are not included. The Fund is a self-supporting enterprise fund with no subsidy from the City's General Fund. All debt service on general obligation bonds issued to fund System improvements, a payment in lieu of taxes, a return on investment and indirect overhead are budgeted to be paid from the annual revenues of the Water Utility Fund. The Fund's annual budgets for Fiscal Year 2012 and Fiscal Year 2013 are shown in Table 16.

**Table 16**  
**Water Utility Fund**  
**Annual Budget**  
**(Fiscal Year Ending June 30)**  
**(Cash Basis)**

| <b>Revenue</b>                       | <b><u>2012</u></b>  | <b><u>2013</u></b>  |
|--------------------------------------|---------------------|---------------------|
| Total Water Revenue                  | \$75,573,500        | \$78,093,320        |
| Interest Income                      | 450,000             | 270,000             |
| Miscellaneous                        | 3,281,500           | 3,397,680           |
|                                      |                     |                     |
| Total Revenue                        | <u>\$79,305,000</u> | <u>\$81,761,000</u> |
| <b>Appropriations</b>                |                     |                     |
| Personnel Services                   | \$17,473,328        | \$17,384,629        |
| Materials, Supplies & Repairs        | 11,261,217          | 11,363,894          |
| General Operations and Fixed Charges | 9,609,158           | 9,373,222           |
| Equipment                            | 289,210             | 308,510             |
| Debt Services & Expenses             | 31,710,325          | 33,645,200          |
| All-Purpose Appropriations           | 8,961,762           | 9,685,545           |
|                                      |                     |                     |
| Total Appropriations                 | <u>\$79,305,000</u> | <u>\$81,761,000</u> |

Sources: City of Norfolk, Virginia, Approved Operating Budgets, Fiscal Years 2012 and 2013.

## Results of Operations

Statements of Revenues, Expenses and Changes in Fund Net Assets for the Fund have been compiled from the City's Comprehensive Annual Financial Report ("CAFR") for Fiscal Years 2008 through 2012 and appear in Table 17. The statements have been organized in such a manner as to facilitate year to year comparisons. In the opinion of the City, there has been no adverse change in the financial condition of the System since the date of the last audit (June 30, 2012).

**Table 17**  
**Water Utility Fund**  
**Statement of Revenues, Expenses and Changes in Fund Net Assets**  
**(Accrual Basis)**  
**(Fiscal Year Ending June 30)**

|                                                      | <u>2008</u>   | <u>2009</u>   | <u>2010</u>   | <u>2011</u>   | <u>2012</u>   |
|------------------------------------------------------|---------------|---------------|---------------|---------------|---------------|
| Operating Revenues                                   |               |               |               |               |               |
| Charges for Services                                 | \$74,239,988  | \$74,453,906  | \$78,982,990  | \$80,573,611  | \$78,148,051  |
| Miscellaneous                                        | 2,915,980     | 2,666,962     | 3,161,097     | 2,936,138     | 3,052,421     |
| Total Operating Revenues                             | 77,155,968    | 77,120,868    | 82,144,087    | 83,509,749    | 81,200,472    |
| Operating Expenses                                   |               |               |               |               |               |
| Personal Services                                    | 13,120,146    | 13,972,816    | 14,284,882    | 14,703,327    | 13,783,048    |
| Plant Operations                                     | 6,625,810     | 6,844,241     | 5,896,843     | 6,493,701     | 6,589,857     |
| Chemicals                                            | 3,446,908     | 4,963,652     | 3,761,744     | 3,524,658     | 2,967,518     |
| Provision of Bad Debts                               | 710,185       | 419,459       | 301,294       | 429,970       | 230,670       |
| Depreciation                                         | 11,096,511    | 11,335,890    | 11,494,781    | 11,915,059    | 11,902,145    |
| Retirement and OPEB Contribution                     | 1,496,116     | 2,240,845     | 2,535,167     | 3,139,382     | 2,957,001     |
| Administrative Expenses                              | 1,809,616     | 1,710,050     | 1,563,029     | 2,263,435     | 1,852,927     |
| Other                                                | 12,350,421    | 10,656,564    | 8,935,390     | 9,224,888     | 8,997,111     |
| Total Operating Expenses                             | 50,655,712    | 52,143,517    | 48,773,130    | 51,694,420    | 49,280,277    |
| Operating Income                                     | 26,500,256    | 24,977,351    | 33,370,957    | 31,815,329    | 31,920,195    |
| Nonoperating Revenue (expenses):                     |               |               |               |               |               |
| Interest Income                                      | 1,574,056     | 899,684       | 325,933       | 227,695       | 94,747        |
| Intergovernmental Revenues                           | -             | -             | -             | 85,261        | 137,555       |
| Interest Expense and Fiscal Charges                  | (14,199,647)  | (14,826,222)  | (15,543,012)  | (16,157,923)  | (15,171,047)  |
| Gain (Loss) on Sale or Disposal of Fixed Assets      | (21,484)      | (20,392)      | 2,842,616     | (157,224)     | 4,024         |
| Unrealized Gain/(Loss) on Investments                | -             | -             | -             | -             | -             |
| Total Nonoperating Revenue (Expenses)                | (12,647,075)  | (13,946,930)  | (12,374,463)  | (16,002,191)  | (14,934,721)  |
| Net Income (Loss) before Contributions and Transfers | 13,853,180    | 11,030,421    | 20,996,494    | 15,813,138    | 16,985,474    |
| Capital Contribution                                 | 175,778       | 503,658       | 366,363       | 129,652       | 187,376       |
| Transfer In                                          | -             | -             | -             | -             | -             |
| Transfer Out                                         | (8,500,000)   | (8,500,000)   | (11,360,000)  | (8,500,000)   | (8,500,000)   |
| Change in Net Assets                                 | 5,528,958     | 3,034,079     | 10,002,857    | 7,442,790     | 8,672,850     |
| Total Net Assets - Beginning                         | 176,953,962   | 182,482,920   | 185,516,999   | 195,519,856   | 202,962,646   |
| Total Net Assets - Ending                            | \$182,482,920 | \$185,516,999 | \$195,519,856 | \$202,962,646 | \$211,635,496 |

Sources: City of Norfolk, Virginia, Comprehensive Annual Financial Reports, Fiscal Years Ended June 30, 2008 through 2012.

## Management Discussion of Operating Results

The following discussion is based on operating budgets and historical operating results as shown in Tables 16 and 17, respectively. The revenues of the Fund have remained fairly stable over the past three years and total expenses of operating the System have remained fairly level over the last several years.

The financial data in this Official Statement is excerpted from the published audited Comprehensive Annual Financial Report (the "CAFR") for fiscal year ended June 30, 2012.

Fiscal Year 2012 revenues exceeded the budget projections and actual expenditures were below budget. Operating revenues were \$81.2 million or approximately 3% more than budgeted.

For Fiscal Year 2013 budgeting purposes, the Water Utility Fund conservatively projected water consumption to be flat for both retail and wholesale accounts. Projected revenue growth is attributable to two (2) factors:

- The annual adjustments in long-term wholesale contracts;
- The previously authorized City Council ordinance that permits an automatic rate increase of 3.5% annually.

Fiscal Year 2012 operating expenditures were \$34.4 million or approximately 4% less than projected. The reductions in the operating budget were achieved through salary savings from vacant positions and chemical cost savings due to an improved water treatment solids handling process.

As with revenue, the Water Utility Fund conservatively projects its Operation and Maintenance (O&M) expenses. These costs are subsequently trended into the future using the following projected inflation estimates:

| Description       | Inflation |
|-------------------|-----------|
| Salaries & Wages  | 2.50%     |
| Health & Benefits | 10.00%    |
| Plant Operations  | 4.00%     |
| Administrative    | 3.00%     |
| Other*            | 3.00%     |

\*Excludes ROI and PILOT

Combining the higher than budgeted revenues and lower than budgeted expenditures, the Water Fund preliminarily expects to end Fiscal Year 2013 with a positive variance.

## OPERATING RESULTS AND DEBT SERVICE COVERAGE

Table 18 includes a summary of the Water Fund's debt service coverage for Fiscal Years 2003 through 2012.

**Table 18**  
**Water Utility Fund**  
**Debt Service Coverage**  
**(Accrual Basis)**  
**(Fiscal Years Ending June 30)**

| Fiscal Year | Revenues Available for Debt Service <sup>(1)</sup> | Operating Expenses <sup>(2)</sup> | Net Revenues | Revenue Bonds Debt Service |              |              | Revenue Bond Coverage |
|-------------|----------------------------------------------------|-----------------------------------|--------------|----------------------------|--------------|--------------|-----------------------|
|             |                                                    |                                   |              | Principal                  | Interest     | Total        |                       |
| 2003        | \$67,760,029                                       | \$27,967,179                      | \$39,792,850 | \$5,700,000                | \$14,600,283 | \$20,300,283 | 1.96                  |
| 2004        | 64,366,942                                         | 33,740,297                        | 30,626,645   | 5,955,000                  | 14,336,043   | 20,291,043   | 1.51                  |
| 2005        | 69,183,154                                         | 34,643,668                        | 34,539,486   | 6,250,000                  | 14,041,059   | 20,291,059   | 1.70                  |
| 2006        | 78,788,158                                         | 34,144,763                        | 44,643,395   | 6,580,000                  | 14,827,960   | 21,407,960   | 2.09                  |
| 2007        | 76,013,563                                         | 32,427,377                        | 43,586,186   | 7,310,000                  | 14,379,821   | 21,689,821   | 2.01                  |
| 2008        | 78,730,024                                         | 37,026,528                        | 41,703,496   | 7,665,000                  | 14,022,200   | 21,687,200   | 1.92                  |
| 2009        | 78,020,552                                         | 38,182,373                        | 39,838,179   | 8,050,000                  | 16,411,343   | 24,461,343   | 1.63                  |
| 2010        | 82,470,020                                         | 34,567,741                        | 47,902,279   | 9,420,000                  | 15,929,680   | 25,349,680   | 1.89                  |
| 2011        | 83,737,444                                         | 37,068,753                        | 46,668,691   | 9,875,000                  | 16,527,844   | 26,402,844   | 1.77                  |
| 2012        | 81,295,219                                         | 34,667,524                        | 46,627,695   | 11,285,000                 | 11,184,363   | 22,469,363   | 2.08                  |

Source: Department of Utilities.

- Notes: (1) Includes operating revenue plus interest income, net of interest capitalized.  
(2) Includes operating expenses less depreciation, amortization and PILOT.

## **CONCLUSIONS OF THE CONSULTING ENGINEER**

For a more complete discussion of historical and projected operating results and debt service coverage for Norfolk's Water Utility Fund, see Section 3 of the Consulting Engineer's Feasibility Study.

The Feasibility Study has been included in the Official Statement in reliance upon the authority of the Consulting Engineer as an expert in the field of water system engineering and financial forecasts. Based on review, analysis and assumptions set forth in the Feasibility Study, the Consulting Engineer concludes that:

- Given current usage and trends, the City's present Water System can be expected to provide sufficient capacity to meet current water needs of its residents, businesses and all of its current contract obligations through the period studied in the Feasibility Study (through Fiscal Year 2017). The City's treated water currently meets all physical, chemical, radiological and bacteriological water quality standards established by Federal and State regulations.
- The Water System is managed and operated in an appropriate manner consistent with sound engineering practices and with appropriate levels of staffing; continuation of these practices, combined with the regular maintenance and completion of the proposed CIP, suggest that the Water System should be capable of providing safe and reliable drinking water to its customers through the study period.
- The Water System is in overall good condition and appears capable of revenue generation for the term of the 2013 Bonds with continued regular maintenance and scheduled System improvements.
- The CIP for Fiscal Year 2013 through Fiscal Year 2017 adequately addresses known requirements for Water System facility renovations and upgrades. The program has sufficiently addressed current and proposed Federal and State regulations regarding safe drinking water, dam safety and environmental protection. While there are some potential contaminants that may be incorporated into future Safe Drinking Water Act amendments, there are no pending regulations that will appear to impact the improvements planned in the CIP.
- Net Revenues are projected to be sufficient (including projected revenue increases resulting from rate increases which have been approved by City Council) to comply with the annual Revenue Covenant requirement in the Master Indenture, taking into account the Outstanding Bonds, the 2013 Bonds, and planned Additional Bonds to be issued through to Fiscal Year 2017.
- Assuming sufficiency of current engineering estimates and project budgets, the proceeds of the 2013 Bonds, together with other available funds, will be sufficient to complete the design and/or construction of the proposed CIP.
- Subject to the assumptions in the Feasibility Study, the Water System is projected to generate adequate reserves during the study period.
- Based on the City's audited financial results for Fiscal Year 2012, the City is projected to be able to meet the Revenue Covenant requirements of the Master Indenture regarding issuance of the 2013 Bonds.
- The sale of the 2013 Bonds, in the amount of \$43,070,000 is financially feasible under the assumptions and projections contained in the Feasibility Study.

**The Feasibility Study should be read in its entirety in order for the reader to effectively evaluate the Consulting Engineer's findings, analyses, assumptions and conclusions.**

## **LEGAL MATTERS**

Certain legal matters relating to the authorization and validity of the 2013 Bonds are subject to the approving opinion of McGuireWoods LLP, Richmond, Virginia, Bond Counsel, which will be in substantially the form of Appendix C to this Official Statement. Such opinion will be furnished at the expense of the City upon delivery of the 2013 Bonds. Since Bond Counsel has not prepared this Official Statement and has not verified its accuracy, completeness or fairness, such opinion will be limited to matters relating to the authorization and validity of the 2013 Bonds and to the exemption of interest thereon under present federal and Virginia income tax laws. Certain legal matters will be passed on for the City by the City Attorney.

## **TAX MATTERS**

### **Opinion of Bond Counsel**

Bond Counsel's opinion will state that, under current law and assuming the compliance with the Covenants, as hereinafter defined, by the City and the accuracy of certain representations and certifications, interest on the 2013 Bonds (including any accrued "original issue discount" properly allocable to the owners of the 2013 Bonds), is (i) excludable from the gross income of the owners of the 2013 Bonds for purposes of federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, as amended (the "Code"), and (ii) not a specific item of tax preference for purposes of the federal alternative minimum tax imposed on individuals and corporations. However, interest on the 2013 Bonds must be included in the adjusted current earnings for purposes of computing the alternative minimum tax imposed on corporations (as defined for federal income tax purposes) under Section 56 of the Code. See Appendix C hereto for the form of the opinion of Bond Counsel.

Bond Counsel will express no opinion regarding other federal tax consequences arising with respect to the 2013 Bonds.

Bond Counsel's opinion speaks as of its date, is based on current legal authority and precedent, covers certain matters not directly addressed by such authority and precedent, and represents Bond Counsel's judgment as to the proper treatment of interest on the 2013 Bonds for federal income tax purposes. Bond Counsel's opinion does not contain or provide any opinion or assurance regarding the future activities of the City or about the effect of future changes in the Code, the applicable regulations, the interpretation thereof or the enforcement thereof by the Internal Revenue Service (the "IRS"). The City has covenanted, however, to comply with the applicable requirements of the Code.

### **Reliance and Assumptions; Effect of Certain Changes**

In delivering its opinion regarding the 2013 Bonds, Bond Counsel is relying upon and assuming the accuracy of representations and certifications of representatives of the City, the underwriters of the 2013 Bonds and other public officials as to facts material to the opinion, which Bond Counsel has not independently verified.

In addition, Bond Counsel is assuming continuing compliance with the Covenants by the City. The Code and the regulations promulgated thereunder contain a number of requirements that must be satisfied after the issuance of the 2013 Bonds in order for interest on the 2013 Bonds to be and remain excludable from gross income for purposes of federal income taxation. These requirements include, by way of example and not limitation, restrictions on the use, expenditure and investment of the proceeds of the 2013 Bonds and the use of the property financed or refinanced by the 2013 Bonds, limitations on the source of the payment of and the security for the 2013 Bonds, and the obligation to rebate certain excess earnings on the gross proceeds of the 2013 Bonds to the United States Department of the Treasury ("Treasury"). The tax certificate for the 2013 Bonds (the "Tax Certificate") contains covenants (the "Covenants") under which the City has agreed to comply with such requirements. Failure by the City to comply with the Covenants could cause interest on the 2013 Bonds to become includable in gross income for federal income tax purposes retroactively to their date of issue. In the event of noncompliance with the Covenants, the available enforcement remedies may be limited by applicable provisions of law and, therefore, may



not be adequate to prevent interest on the 2013 Bonds from becoming includable in gross income for federal income tax purposes.

Bond Counsel has no responsibility to monitor compliance with the Covenants after the date of issue of the 2013 Bonds.

Certain requirements and procedures contained, incorporated or referred to in the Tax Certificate, including the Covenants, may be changed and certain actions may be taken or omitted under the circumstances and subject to the terms and conditions set forth in such document. Bond Counsel expresses no opinion concerning any effect on excludability of interest on the 2013 Bonds from gross income for federal income tax purposes of any such subsequent change or action that may be made, taken or omitted upon the advice or approval of counsel other than Bond Counsel.

### **Certain Collateral Federal Tax Consequences**

The following is a brief discussion of certain collateral federal income tax matters with respect to the 2013 Bonds. It does not purport to address all aspects of federal taxation that may be relevant to a particular owner thereof. Prospective purchasers of such 2013 Bonds, particularly those who may be subject to special rules, are advised to consult their own tax advisors regarding the federal tax consequences of owning or disposing of the 2013 Bonds.

Prospective purchasers of the 2013 Bonds should be aware that the ownership of tax-exempt obligations may result in collateral federal income tax consequences to certain taxpayers including, without limitation, financial institutions, certain insurance companies, certain corporations (including S corporations and foreign corporations), certain foreign corporations subject to the "branch profits tax," individual recipients of Social Security or Railroad Retirement benefits, taxpayers who may be deemed to have incurred or continued indebtedness to purchase or carry tax-exempt obligations and taxpayers attempting to qualify for the earned income tax credit.

In addition, prospective purchasers should be aware that the interest paid on, and the proceeds of the sale of, tax-exempt obligations, including the 2013 Bonds, are in many cases required to be reported to the IRS in a manner similar to interest paid on taxable obligations. Additionally, backup withholding may apply to any 2013 Bond owner who fails to provide an accurate Form W-9 Request for Taxpayer Identification Number and Certification, or a substantially identical form, or to any 2013 Bond owner who is notified by the IRS of a failure to report all interest and dividends required to be shown on federal income tax returns. The reporting and withholding requirements do not in and of themselves affect the excludability of such interest from gross income for federal tax purposes or any other federal tax consequence of purchasing, holding or selling tax-exempt obligations.

### **Original Issue Discount**

The "original issue discount" ("OID") on any 2013 Bond is the excess of such bond's stated redemption price at maturity (excluding certain "qualified stated interest" that is unconditionally payable at least annually at prescribed rates) over the issue price of such bond. The "issue price" of a bond is the initial offering price to the public at which price a substantial amount of such bonds of the same maturity was sold. The "public" does not include bond houses, brokers, or similar persons or organizations acting in the capacity of underwriters, placement agents or wholesalers. The issue price for each maturity of the 2013 Bonds is expected to be the initial public offering price set forth on the inside front cover page of this Official Statement, but is subject to change based on actual sales. OID on the 2013 Bonds with OID (the "OID Bonds") represents interest that is excludable from gross income for purposes of federal and Virginia income taxation. However, the portion of the OID that is deemed to have accrued to the owner of an OID Bond in each year may be included in determining the alternative minimum tax with respect to the 2013 Bonds and the distribution requirements of certain investment companies and may result in some of the collateral federal income tax consequences mentioned in the preceding subsection. Therefore, owners of OID Bonds should be aware that the accrual of OID in each year may result in alternative minimum tax liability, additional distribution requirements or other collateral federal and Virginia income tax consequences although the owner may not have received cash in such year.

Interest in the form of OID is treated under Section 1288 of the Code as accruing under a constant yield method that takes into account compounding on a semiannual or more frequent basis. If an OID Bond is sold or otherwise disposed of between semiannual compounding dates, then the OID which would have accrued for that semiannual compounding period for federal income tax purposes is to be apportioned in equal amounts among the days in such compounding period.

In the case of an original owner of an OID Bond, the amount of OID that is treated as having accrued on such OID Bond is added to the owner's cost basis in determining, for federal income tax purposes, gain or loss upon its disposition (including its sale, redemption or payment at maturity). The amounts received upon such disposition that are attributable to accrued OID will be excluded from the gross income of the recipients for federal income tax purposes. The accrual of OID and its effect on the redemption, sale or other disposition of OID Bonds that are not purchased in the initial offering at the initial offering price may be determined according to rules that differ from those described above.

Prospective purchasers of OID Bonds should consult their own tax advisors with respect to the precise determination for federal income tax purposes of interest accrued upon sale or redemption of such OID Bonds and with respect to state and local tax consequences of owning OID Bonds.

### **Bond Premium**

In general, if an owner acquires a bond for a purchase price (excluding accrued interest) or otherwise at a tax basis that reflects a premium over the sum of all amounts payable on the bond after the acquisition date (excluding certain "qualified stated interest" that is unconditionally payable at least annually at prescribed rates), that premium constitutes "bond premium" on that bond (a "Premium Bond"). In general, under Section 171 of the Code, an owner of a Premium Bond must amortize the bond premium over the remaining term of the Premium Bond, based on the owner's yield over the remaining term of the Premium Bond, determined based on constant yield principles. An owner of a Premium Bond must amortize the bond premium by offsetting the qualified stated interest allocable to each interest accrual period under the owner's regular method of accounting against the bond premium allocable to that period. In the case of a tax-exempt Premium Bond, if the bond premium allocable to an accrual period exceeds the qualified stated interest allocable to that accrual period, the excess is a nondeductible loss. Under certain circumstances, the owner of a Premium Bond may realize a taxable gain upon disposition of the Premium Bond even though it is sold or redeemed for an amount less than or equal to the owner's original acquisition cost. Prospective purchasers of any Premium Bonds should consult their own tax advisors regarding the treatment of bond premium for federal income tax purposes, including various special rules relating thereto, and state and local tax consequences, in connection with the acquisition, ownership, amortization of bond premium on, sale, exchange, or other disposition of Premium Bonds.

### **Effects of Future Enforcement, Regulatory and Legislative Actions**

The IRS has established a program to audit tax-exempt obligations to determine whether the interest thereon is includable in gross income for federal income tax purposes. If the IRS does audit the 2013 Bonds, the IRS will, under its current procedures, treat the City as the taxpayer. As such, the beneficial owners of the 2013 Bonds will have only limited rights, if any, to participate in the audit or any administrative or judicial review or appeal thereof. Any action of the IRS, including but not limited to the selection of the 2013 Bonds for audit, or the course or result of such audit, or an audit of other obligations presenting similar tax issues, may affect the marketability or market value of the 2013 Bonds.

Legislation affecting tax-exempt obligations is regularly considered by the United States Congress and various State legislatures. Such legislation may effect changes in federal or State income tax rates and the application of federal or State income tax laws (including the substitution of another type of tax), or may repeal or reduce the benefit of the excludability of interest on the tax-exempt obligations from gross income for federal or State income tax purposes.

The U.S. Department of the Treasury and the IRS are continuously drafting regulations to interpret and apply the provisions of the Code and court proceedings may be filed the outcome of which could modify the federal or State tax treatment of tax-exempt obligations. There can be no assurance that legislation proposed or enacted after

the date of issue of the 2013 Bonds, regulatory interpretation of the Code or actions by a court involving either the 2013 Bonds or other tax-exempt obligations will not have an adverse effect on the 2013 Bonds' federal or State tax status, marketability or market price or on the economic value of the tax-exempt status of the interest on the 2013 Bonds.

Prospective purchasers of the 2013 Bonds should consult their own tax advisors regarding the potential consequences of any such pending or proposed federal or State tax legislation, regulations or litigation, as to which Bond Counsel expresses no opinion.

### **Virginia Tax Matters**

Bond Counsel's opinion also will state that, under current law, interest on the 2013 Bonds is excludable from the gross income of the owners thereof for purposes of income taxation by the Commonwealth. Bond Counsel will express no opinion regarding (i) other tax consequences arising with respect to the 2013 Bonds under the laws of the Commonwealth or (ii) any consequences arising with respect to the 2013 Bonds under the tax laws of any state or local jurisdiction other than the Commonwealth. Prospective purchasers of the 2013 Bonds should consult their own tax advisors regarding the tax status of interest on the 2013 Bonds in a particular state or local jurisdiction other than Virginia.

### **PENDING LITIGATION**

The City is involved from time to time in various legal actions some of which affect the System. In the opinion of the City Attorney, there is no litigation now pending or threatened to restrain or enjoin the issuance, sale, execution or delivery of the 2013 Bonds, or in any way contesting or affecting the validity of the 2013 Bonds, any proceeding of the City taken with respect to their issuance or sale, or the powers of the City with respect to the operation of the System including the City's ability to collect and apply Revenues of the System as set forth in the Indenture.

According to the City there is no litigation pending or, to its knowledge and belief, threatened which would have a material adverse effect on the operations or financial condition of the System.

### **BOND RATINGS**

The 2013 Bonds have been rated Aa2 by Moody's Investors Service, Inc. ("Moody's"), AA+ by Standard & Poor's Ratings Services ("Standard & Poor's") a division of The McGraw-Hill Companies, Inc. and AA+ by Fitch Ratings ("Fitch").

Explanations of the significance of such ratings may be obtained from Moody's, Standard & Poor's and Fitch. The ratings are not a recommendation to buy, sell or hold the 2013 Bonds and should be evaluated independently.

There is no assurance that such ratings will not be withdrawn or revised downward by Moody's, Standard & Poor's or Fitch. Such action may have an adverse effect on the market price of the 2013 Bonds. The City has not undertaken any responsibility after the issuance of the 2013 Bonds to assure maintenance of the ratings or to oppose any such revision or withdrawal.

### **FINANCIAL STATEMENTS**

The audited Fund financial statements with accompanying notes for the Fiscal Years 2011 and 2012 are published, along with the accompanying report of the City's Independent Accountants, in Appendix B to this Official Statement. The City's Independent Accountants have not reviewed this Official Statement or any other matters related to the issuance of the 2013 Bonds.

## **FINANCIAL ADVISOR**

The City has retained Public Financial Management, Inc., Arlington, Virginia ("PFM"), as financial advisor in connection with the issuance and sale of the 2013 Bonds. Although PFM has assisted in the preparation of this Official Statement, PFM is not obligated to undertake, and has not undertaken to make, an independent verification or to assume responsibility for the accuracy, completeness or fairness of the information contained in this Official Statement. PFM is an independent advisory firm and is not engaged in the business of underwriting, trading or distributing municipal securities or other public securities.

## **SALE AT COMPETITIVE BIDDING**

The 2013 Bonds were sold at competitive bidding on February 11, 2013, to Merrill Lynch, Pierce, Fenner & Smith Incorporated (the "Underwriter"). The Underwriter has supplied the information as to the interest rates, offering prices and yields of the 2013 Bonds as set forth on the inside front cover of this Official Statement. If all of the 2013 Bonds are resold to the public at such offering prices and yields, the Underwriter has informed the City that it anticipates total underwriting compensation of \$44,863.00. The Underwriter may offer to sell the 2013 Bonds to certain dealers and others at prices lower than the initial offering prices, and the Underwriter may change the public offering prices from time to time.

## **CONTINUING DISCLOSURE**

The offering of the 2013 Bonds is subject to the continuing disclosure requirements of the Rule. Pursuant to the Rule, the City has undertaken for the benefit of the Bondholders to make public certain annual financial information and notice of certain material events by furnishing such information to the Municipal Securities Rulemaking Board.

A failure by the City to comply with its continuing disclosure undertaking will not constitute an Event of Default under the Indenture (although the Bondholders will have any available remedy at law or in equity to enforce the undertaking). However, a failure must be reported in accordance with the Rule and must be considered by any broker, dealer or municipal securities dealer before recommending the purchase or sale of the 2013 Bonds in the secondary market. Consequently, such a failure may adversely affect the transferability and liquidity of the 2013 Bonds and their market price.

The City failed to comply with certain provisions of the Rule by not filing in a timely manner with the MSRB's Electronic Municipal Market Access system ("EMMA") and the respective nationally recognized municipal securities information repositories certain operating data for the Fiscal Years 2006 through 2010, which previously was included in the statistical section of its CAFR for such years, but was inadvertently omitted. Subsequently, the City filed such information, and the City has established procedures to reduce the likelihood of future reoccurrences.

**See "Appendix F - FORM OF CONTINUING DISCLOSURE AGREEMENT" hereto for the form of continuing disclosure agreement.**

## **MISCELLANEOUS**

This Official Statement and any advertisement of the 2013 Bonds are not to be construed as a contract with the purchasers of the 2013 Bonds. Any statement made in this Official Statement involving matters of opinion or of estimates, whether or not so expressly identified, are set forth as such and not as representations of fact, and no representation is made that any of the estimates will be realized.

The references in this Official Statement to and summaries of federal, Commonwealth and City laws, including but not limited to the Constitution of the Commonwealth, the Code of Virginia, the City Charter and documents, agreements and court decisions are summaries of certain of their provisions. Such summaries do not purport to be complete and are qualified in their entirety by reference to such acts, laws, documents, agreements or decisions, copies of which are available for inspection during normal business hours at the office of the City Attorney.

Any question concerning the content of this Official Statement should be directed to the Director of Finance, 810 Union Street, City Hall Building, Suite 600, Norfolk, Virginia 23510, (757) 664-4346.

The City Council has by ordinance authorized the execution and delivery of this Official Statement on behalf of the City by the City Manager and the Director of Finance.

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The distribution of this Official Statement has been duly authorized by the City Council.

**CITY OF NORFOLK, VIRGINIA**

*/s/ Marcus D. Jones*

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City Manager

*/s/ Alice M. Kelly, CPA*

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Director of Finance

**DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE**

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**DEFINITIONS AND SUMMARY  
OF CERTAIN PROVISIONS OF THE INDENTURE**

**Definitions of Certain Terms**

"Accreted Value" will have the meaning set forth in the Supplemental Indenture authorizing any Capital Appreciation Bonds.

"Act" means the Public Finance Act of 1991, Chapter 26 of Title 15.2, of the Code of Virginia of 1950, as amended.

"Additional Bonds" mean any Bonds other than the Outstanding Bonds or the 2013 Bonds.

"Annual Budget" means the budget referred to in the Master Indenture.

"Authorized City Representative" means any person or persons designated to act on behalf of the City by a certificate signed by its Director of Finance and filed with the Trustee.

"Average Interest Rate" means the average of the actual interest rates which were in effect (weighted according to the length of the period during which each such interest rate was in effect) for the most recent twelve-month period immediately preceding the date of calculation for which such information is available (or shorter period if such information is not available for a twelve-month period), except that with respect to new Variable Rate Indebtedness the interest rate for such Variable Rate Indebtedness for the initial interest rate period will be the initial rate at which such Variable Rate Indebtedness is issued and thereafter will be calculated as set forth above.

"Balloon Indebtedness" means any Indebtedness, including any Bond Anticipation Notes, 25% or more of the original principal amount of which matures or is subject to mandatory redemption during any consecutive twelve-month period, if the maturing principal amount is not required to be amortized below such percentage by mandatory redemption or prepayment before the twelve-month period.

"Bank" means (i) a bank or trust company that has a combined capital, surplus and undivided profits of not less than \$50,000,000 or (ii) a subsidiary trust company with combined capital, surplus and undivided profits, together with that of its parent bank or bank holding company, as the case may be, of not less than \$50,000,000; provided, however, that any such bank or trust company will have (or have a parent company which has) a long-term debt rating within one of the three highest categories by at least one of the Rating Agencies.

"Bond" or "Bonds" mean any bond or all of the bonds, as the case may be, issued pursuant to the Master Indenture and any Supplemental Indenture, but not including any Parity Indebtedness or Subordinate Debt or any bonds or other evidence of indebtedness of the City issued from time to time under any other indenture, trust agreement, ordinance, resolution or similar instrument.

"Bond Anticipation Notes" mean notes or other obligations issued in anticipation of the issuance of Bonds.

"Bond Counsel" means an attorney or a firm of attorneys (designated by the City) of nationally recognized standing in matters pertaining to the validity of and the tax-exempt nature of interest on bonds issued by states and their political subdivisions, duly admitted to the practice of law before the highest court of any state of the United States of America.

"Bond Debt Service" means for any period of twelve consecutive months the Debt Service Requirement with respect to any Bonds then Outstanding.

"Bond Fund" means the bond fund established under the Master Indenture.

"Business Day" means any day other than (i) a Saturday or Sunday, (ii) a day on which commercial banks in the Commonwealth, or the city in which the principal corporate trust office of the Trustee or the Paying Agent is located, are authorized by law to close, (iii) a day on which the New York Stock Exchange is closed, or (iv) such other days as may be specified in a Supplemental Indenture.

"Capital Appreciation Bonds" mean the Bonds in any Series designated as Capital Appreciation Bonds in the Supplemental Indenture authorizing the issuance of the Series.

"Capitalized Interest Account" means the Capitalized Interest Account of the Bond Fund.

"City" means the City of Norfolk, Virginia, a political subdivision of the Commonwealth.

"City Obligations" means for any Fiscal Year the amount budgeted to be paid to the general fund of the City for PILOT and ROI.

"Code" means the Internal Revenue Code of 1986, as amended, including applicable regulations and revenue rulings, and any successor codification.

"Commonwealth" means the Commonwealth of Virginia.

"Compounding Date" for Bonds of any Series will have the meaning set forth in the Supplemental Indenture authorizing the issuance of such Series.

"Consulting Engineer" means an independent engineering firm or individual engineer licensed to do business in Virginia and experienced with matters related to utilities similar to the System retained by the City as Consulting Engineer.

"Contracted Services" mean services rendered or facilities provided to the City in respect of the System or for the performance for or on behalf of the City of functions similar to those performed by the System, from a specific project, projects or systems, pursuant to a Service Contract, whether a financing lease, a service agreement or another arrangement.

"Cost" or "Cost of the Project" means all costs incurred by the City in connection with the acquisition, expansion, construction, improvement, renovation and equipping of the System or any Project comprising a portion of the System, as permitted by the Act, including, without limitation, the payment of costs of issuance of Bonds and the funding of such funds and accounts as provided in the Master Indenture or any Supplemental Indenture, the cost of all lands, properties, rights, easements, franchises and permits acquired, the cost of all machinery and equipment, amounts paid to purchase capacity or services from other entities which are required to be capitalized or which the City makes an election to capitalize, financing charges, initial credit enhancement charges, interest before and during construction of any Project and for up to one year after completion of construction of any Project, any amounts required to be rebated to the United States of America pursuant to Section 148(f) of the Code, any deposits to any bond interest and principal reserve accounts, the cost of engineering and legal services, plans, specifications, surveys, estimates of costs and of revenues, other expenses necessary or incident to determining the feasibility or practicability of any acquisition, improvement or construction, administrative expenses, working capital, the retirement of notes or other interim financing the proceeds of which were used to pay Costs, and such other expenses as may be necessary or incidental to the improvement of the System and placing it in operation.

"Cost of Contracted Services" means the payments to be made by the City for Contracted Services which may be allocated by the City between: (i) a Debt Service Component and (ii) an Operating Component. No designation or characterization of payments under a Service Contract will affect the City's right to make some other allocation of the payments for the purpose of the Master Indenture.

"Counsel" means such attorney or firm of attorneys selected or approved by the City who are duly admitted to practice law before the highest court of any state of the United States of America, none of whom is a full-time employee, member, director or officer of the City or a full-time employee or officer of the Trustee.

"Credit Facility" means a line of credit, letter of credit, standby bond purchase agreement or similar credit enhancement or liquidity facility established to provide credit or liquidity support for Bonds or Parity Indebtedness.

"Dealer" means a financial institution or government bond dealer which (i) is a member of the Securities Investors Protection Corporation and (ii) has a long-term debt rating in one of the three highest rating categories by at least one of the Rating Agencies or has a dealer or parent holding company that has a long-term debt rating within one of the three highest rating categories by at least one of the Rating Agencies.

"Debt Service Component" means the portion of the Cost of Contracted Services that an Authorized City Representative determines, in a certificate delivered to the Trustee, to be for the purpose of paying a fixed charge or the principal of or interest on the obligations, directly or indirectly associated with rendering the Contracted Services, of the person providing the Contracted Services.

"Debt Service Requirement" means, for any period of twelve consecutive months for which such determination is made, the aggregate of the amounts required to be deposited, as the case may be in the Bond Fund, the Parity Debt Service Fund and the Subordinate Debt Service Fund during this period with respect to any Bonds, Parity Indebtedness or Subordinate Indebtedness; provided, however, that:

(a) with respect to any Option Obligations, such Option Obligations will be assumed to mature on their stated dates of maturity;

(b) with respect to Balloon Indebtedness, it will be assumed that the principal of such Balloon Indebtedness, together with interest at the rate applicable to such Balloon Indebtedness, will be amortized in equal annual installments over a period of thirty years from the date the Balloon Indebtedness was incurred;

(c) with respect to Variable Rate Indebtedness, interest on such Indebtedness will be calculated at the Average Interest Rate;

(d) with respect to obligations related to any Credit Facility which constitute Parity Indebtedness or Subordinate Debt, to the extent that such Credit Facility has not been used or drawn upon, or any such drawing or use has been reimbursed to the provider the principal and interest relating to such Credit Facility will not be included in the Debt Service Requirement for such Parity Indebtedness or Subordinate Debt; and

(e) with respect to any Derivative Indebtedness, the interest on such Indebtedness will be calculated at the Hedged Fixed Rate, if any.

"Debt Service Reserve Fund" means the debt service reserve fund established under the Master Indenture.

"Debt Service Reserve Requirement" means, as of any particular date of calculation, the sum of (i) the Prior DSR Requirement computed with respect to the Prior Series only and (ii) with respect to any other Series of Bonds, an amount at least equal to the least of (x) the maximum principal and interest due on such Series of Bonds then Outstanding in the then current or any future Fiscal Year, (y) 125% of the average annual principal and interest due on such Series of Bonds then Outstanding in the then current and each future Fiscal Year and (z) 10% of the proceeds of such Series of Bonds (within the meaning of the Code); provided that the Supplemental Indenture corresponding to any Series of Bonds (other than the Prior Series) may provide for the establishment of a separate account in the Debt Service Reserve Fund to secure only such Series of Bonds (and any Bonds issued to refund such Series in part), with such Series of Bonds having no claim on the other moneys deposited to the credit of the Debt Service Reserve Fund or any other account therein), the Debt Service Reserve Requirement for such Series of Bonds will be calculated as set forth in the corresponding Supplemental Indenture. With respect to any Series of Bonds, the Debt Service Reserve Requirement may be increased by the City to the extent that there is delivered to the Trustee an opinion of Bond Counsel to the effect that the increase will not adversely affect the exclusion of interest on the Bonds from gross income for purposes of federal income taxation. In determining the amount of principal and interest due on Bonds which are Variable Rate Indebtedness, interest will be calculated at a rate equal to the greater of (i) the actual interest rate on the Bonds in effect on the date of their issuance or (ii) the current average yield on municipal revenue bonds maturing in thirty years, according to the weekly index published by The Bond

Buyer for the week immediately preceding the week in which the Bonds are issued. In the event The Bond Buyer is not published as the date of any determination, or if published, does not publish an index of the current yield on municipal revenue bonds maturing in thirty years, an alternative index or other source of current bond yields may be designated by the Authorized City Representative. In determining the amount of principal and interest due on Bonds which are Balloon Indebtedness, the amount of principal and interest on the Balloon Indebtedness due in any year will be calculated by assuming that the original principal amount of the Balloon Indebtedness amortized in equal annual installments over a period of thirty years from the date the Balloon Indebtedness was incurred. In computing the amount of the Debt Service Reserve Requirement, the City may, at its option, disregard any portion of interest on Bonds issued in the form of "tax credit bonds" for which the City expects to be reimbursed by the federal government (for example, Direct Pay Build America Bonds issued under Section 54AA of the Code).

"Defeased Municipal Obligations" mean obligations of state or local government municipal bond issuers, which are rated in the highest rating category by Moody's Investors Service, Inc., and Standard & Poor's Ratings Services, provision for the payment of the principal of and interest on which has been made by the deposit with a trustee or escrow agent of Government Obligations or Government Certificates, the maturing principal of and interest on which, when due and payable, will provide sufficient money to pay the principal of, redemption premiums, if any, and interest on such obligations of state or local government municipal bond issuers.

"Defeased Municipal Obligation Certificate" means evidence of ownership of a proportionate interest in specified Obligations, which Obligations are held by a bank or trust company organized and existing under the laws of the United States of America or any of its states acceptable to the Trustee in the capacity of custodian.

"Defeasance Obligations" mean (i) noncallable Government Obligations, (ii) Government Certificates, (iii) Defeased Municipal Obligations and (iv) Defeased Municipal Obligation Certificates. With respect to the 2012 Bonds only, the term "Defeasance Obligations" includes the foregoing and noncallable bonds, notes and other obligations of any agency of the United States eligible for the investment of public sinking funds under the Investment Act.

"De Minimis Amount" means (i) in reference to original issue discount (as defined in Section 1273(a)(1) of the Code) or premium on an obligation (A) an amount that does not exceed 2% multiplied by the stated redemption price at maturity plus (B) any original issue premium that is attributable exclusively to reasonable underwriter's compensation; and (ii) in reference to market discount (as defined in Section 1278(a)(2)(A) of the Code) or premium on an obligation, an amount that does not exceed 2% multiplied by the stated redemption price at maturity.

"Derivative Indebtedness" has the meaning given to it in any Supplemental Indenture authorizing the issuance of a Series of Bonds and may also include, but is not limited to, a portion of Indebtedness which bears interest at a variable rate during any future period of time meeting the following requirements:

(a) the City has entered into a Hedge Agreement in respect of such Indebtedness within sixty days of the date of the issuance of the Indebtedness, and

(b) the Hedge Agreement provides that during the entire period that such Indebtedness bears interest at a variable rate the City will pay a fixed rate to the provider of the Hedge Agreement and the provider of the Hedge Agreement will pay the variable rate borne by such Indebtedness, or such Indebtedness, taken together with the Hedge Agreement, results in a net fixed rate payable by the City to the provider of the Hedge Agreement for such period of time (the "Hedged Fixed Rate"), assuming the City and the provider of the Hedge Agreement make all payments required to be made by the terms of the Hedge Agreement.

"Director of Finance" means the Director of Finance of the City or, if the City no longer has a person with the title of Director of Finance, the person filling the office with similar duties as the Director of Finance.

"Director of Utilities" means the Director of Utilities of the City or if the City no longer has a person with the title of Director of Utilities, the person filling the office with similar duties as the Director of Utilities.

"Existing Debt Service" means for any Fiscal Year the amount budgeted to be paid to the general fund of the City to pay debt service on general obligation bonds of the City issued to pay costs of the System.

"Event of Default" means any Event of Default described in "Summary of Certain Provisions of the Indenture – Event of Default."

"Financial Institution" means any Bank, Insurance Company or Dealer.

"Fiscal Year" means the period of twelve months established by the City as its annual accounting period.

"Fixed Rate Investment" means any obligation the yield on which was fixed and determinable on its issue date.

"General Reserve Fund" means the general reserve funds established under the Master Indenture.

"Government Certificates" mean evidences of ownership of a proportionate interest in specified Government Obligations which are held by a bank or trust company organized and existing under the laws of the United States of America or any of its states acceptable to the Trustee in the capacity of custodian.

"Government Obligations" mean bonds, notes and other direct obligations of the United States of America and securities unconditionally guaranteed as to the timely payment by the United States of America.

"Hedge Agreement" means a contract or agreement, payable from Net Revenues on a parity with or subordinate to any Bonds or Parity Indebtedness intended to place Indebtedness on the interest rate, currency, cash flow or other basis desired by the City, including, without limitation, any interest rate swap agreement, currency swap agreement, forward payment conversion agreement or futures contract, any contract providing for payments based on levels of, or changes in, interest rates, currency exchange rates, stock or other indices, any contract to exchange cash flows or a series of payments, or any contract, including, without limitation, an interest rate floor or cap, or an option, put or call, to hedge payment, currency, rate, spread or similar exposure, between the City and a counterparty; provided that not less than 30 days prior to the City's execution of such contract or agreement, each Rating Agency which maintains a rating with respect to any Indebtedness receives notice in writing of the City's pending execution thereof; and provided further that at the time of origination each Rating Agency which maintains a rating with respect to any Indebtedness confirms in writing to the City that the City's execution and delivery of such contract will not result in a downgrading, withdrawal or suspension of such rating.

"Hedge Fixed Rate" means Hedged Fixed Rate as defined in definition of Derivative Indebtedness.

"Indebtedness" means the Bonds, any Parity Indebtedness or any Subordinate Debt.

"Insurance Company" means an insurance company with a long-term debt rating within one of the three highest rating categories by at least one of the Rating Agencies.

"Interest Account" means the Interest Account of the Bond Fund.

"Interest Payment Date" means any date on which a payment of interest on any Bonds or any Parity Indebtedness is due.

"Interest Period" means the period from and including an Interest Payment Date to and including the day before the next Interest Payment Date, except the first Interest Period for each Series of Bonds and Parity Indebtedness will be the period from and including the date specified in the Supplemental Indenture authorizing the Series of Bonds or the document authorizing the Parity Indebtedness for the Bonds or Parity Indebtedness to begin to bear interest to and including the day before the first Interest Payment Date.

"Investment Act" means the Investment of Public Funds Act, Chapter 18, Title 2.1, Code of Virginia of 1950, as amended.

"Master Indenture" means the Master Indenture of Trust, between the City and the Trustee, as it may be modified, altered, amended and supplemented from time to time in accordance with its terms.

"Net Proceeds" mean the proceeds from any insurance recovery remaining after payment of attorneys' fees, fees and expenses of the City and the Trustee and all other expenses incurred in collection of the gross proceeds.

"Net Revenues" mean Revenues less Operating Expenses.

"Operating Component" means the portion of the Cost of Contracted Services reasonably determined by an Authorized City Representative, in a certificate delivered to the Trustee from time to time, to be directly or indirectly attributable to the ownership or operation of the System without regard to its treatment under generally accepted accounting principles; provided, however, if no such determination is made, all of the Cost of Contracted Services will be treated as Operating Component.

"Operating Expenses" mean all expenses which may reasonably be determined by the City in its Annual Budget to be directly or indirectly attributable to the ownership or operation of the System and payable as Operating Expenses without regard to the treatment of such expenses under generally accepted accounting principles, including, without limitation, reasonable and usual expenses of administration, operation, maintenance and repair, which may include expenses not annually recurring, costs of billing and collecting the rates, fees and charges for the use of or the services furnished by the System, the Operating Component of the Cost of Contracted Services, insurance and surety bond premiums and reserves, other charges and fees necessary for the maintenance of adequate insurance coverage for the City and the System, fees and payments for any Credit Facility, legal, engineering and auditing expenses, expenses and compensation of the Trustee, reimbursement to the City's general fund for the cost of services rendered with respect to the System, and other expenses of the City required to be paid by law or under the Master Indenture or any Supplemental Indenture, but will not include (i) any allowance for amortization or depreciation, (ii) deposits or transfers to the Bond Fund, the Parity Debt Service Fund, the Debt Service Reserve Fund, the Subordinate Debt Service Fund, the Repair and Replacement Reserve Fund, the Rate Stabilization Fund, (iii) payments for Existing Debt Service or City Obligations and (iv) expenditures which the City makes an election to capitalize.

"Operating Fund" means the operating fund established under the Master Indenture.

"Opinion of Counsel" means a written opinion of any Counsel in form and substance acceptable to the Trustee.

"Option Obligations" mean any Indebtedness which by its terms may be tendered by and at the option of its Owner or holder for purchase before its stated maturity.

"Outstanding" means, at any date, the aggregate of all Indebtedness authorized, issued, authenticated and delivered under the Master Indenture and not paid and discharged, except:

- (a) Indebtedness cancelled or surrendered to the Paying Agent for cancellation;
- (b) Indebtedness deemed to have been paid as provided in the Master Indenture or in such other instrument authorizing its issuance; and
- (c) Indebtedness in lieu of or in substitution for which other Indebtedness has been authenticated and delivered pursuant to the Master Indenture and any Supplemental Indenture unless proof satisfactory to the Paying Agent is presented that any such Indebtedness is held by a bona fide Owner.

In determining whether Owners of a requisite aggregate principal amount of the Outstanding Bonds or Parity Indebtedness have concurred in any request, demand, authorization, direction, notice, consent or waiver under the Indenture, the principal amount of Capital Appreciation Bonds will be their Accreted Value (as of the immediately preceding Compounding Date). Indebtedness which is owned by the City will be disregarded and deemed not to be Outstanding for the purpose of any such determination; provided, however, that for the purpose of

determining whether the Trustee will be protected in relying upon any request, demand, authorization, direction, notice, consent or waiver, only Indebtedness which the Trustee knows to be so owned will be disregarded.

"Owner" means the Person in whose name a particular Bond is registered on the records of the Paying Agent or who is the holder of Parity Indebtedness.

"Parity Debt Service" means, for any period of twelve consecutive months, the Debt Service Requirement with respect to Parity Indebtedness.

"Parity Debt Service Component" means all or any portion of the Debt Service Component of the Cost of Contracted Services under the Service Contracts meeting the requirements of the Master Indenture that an Authorized City Representative, determines in a certificate delivered to the Trustee will be payable on a parity with the Bonds.

"Parity Debt Service Fund" means the parity debt service fund established under the Master Indenture.

"Parity Indebtedness" means (i) the Parity Debt Service Component of the Cost of Contracted Services and (ii) any other Parity Indebtedness incurred in accordance with the Master Indenture which is secured on a parity with the Bonds, including bonds, notes or other evidences of indebtedness issued pursuant to the Master Indenture and any Supplemental Indenture equally and ratably secured by a pledge of Net Revenues and, at the City's option, any other security pledged to such bonds, notes or other evidences of indebtedness but which are not secured by the Debt Service Reserve Fund. Parity Indebtedness may also include Bond Anticipation Notes, Hedge Agreements or obligations with respect to Credit Facilities; provided, however, Parity Indebtedness does not include any Bonds or any other indebtedness of the City issued from the time to time under any other indenture, trust agreement, ordinance, resolution or other instrument not secured by a pledge of Revenues.

"Paying Agent" means any paying agent for the Bonds (and may include the Trustee) and its successor or successors appointed pursuant to the provisions of any Supplemental Indenture. Unless otherwise provided in a Supplemental Indenture, the Trustee will be the Paying Agent.

"Person" means an individual, a corporation, a partnership, a general partner of a partnership, an association, a joint stock company, a trust, any unincorporated organization, or a governmental unit or its political subdivision.

"PILOT" means for any Fiscal Year the amount budgeted to be paid with respect to the System to the general fund of the City in lieu of taxes.

"Plain Par Investments" mean a Fixed Rate Investment:

- (a) Issued with not more than a De Minimis Amount of original issue discount or premium, or, if acquired on a date other than its issue date, acquired with not more than a De Minimis Amount of market discount or premium;
- (b) Issued for a price that does not include accrued interest other than pre-issuance accrued interest;
- (c) That bears interest from its issue date at a single, stated, fixed rate, with interest unconditionally payable at least annually; and
- (d) That has a lowest stated redemption price that is not less than its outstanding stated principal amount.

"Present Value" means the present value computed under the economic accrual method (using the same compounding interval and financial conventions used to compute the yield on the relevant Series of Bonds under Section 148 of the Code), of all unconditionally payable receipts to be received from and payments to be paid for an

investment after the valuation date, using the Yield (as defined in the Tax Compliance Agreement) on the investment as the discount rate.

"Principal Account" means the Principal Account of the Bond Fund.

"Principal Payment Date" means any date on which a payment of principal or Accreted Value of any Bonds or any Parity Indebtedness is due.

"Principal Period" means the period from and including a Principal Payment Date to and including the day before the next Principal Payment Date, except the first Principal Period for each Series of Bonds or Parity Indebtedness will be the twelve months immediately preceding the first Principal Payment Date unless some other period is specified in the Supplemental Indenture authorizing the Series of Bonds or the Service Contract or other document authorizing the Parity Indebtedness.

"Prior DSR Requirement" means an amount equal at least to the lesser of (i) the maximum principal and interest due on the Prior Series then Outstanding in the then current or any future Fiscal Year and (ii) 125% of the average annual principal and interest due on the Prior Series then Outstanding in the then current and each future Fiscal Year.

"Prior Series" means, for purposes of this Appendix A and as of any particular date of calculation, the then-Outstanding 2005 Bonds, 2008 Bonds and 2010 Bonds.

"Project" will have the meaning set forth in any Supplemental Indenture.

"Project Fund" means the project fund established under the Master Indenture.

"Rate Stabilization Fund" means the Rate Stabilization Fund established under the Master Indenture.

"Rate Stabilization Requirement" means such amount as may be established by the City pursuant to the Master Indenture, and if no such amount is established, the Rate Stabilization Requirement will be zero.

"Rating Agency" means any nationally recognized securities rating agency then rating the Bonds at the request of the City.

"Redemption Account" means the Redemption Account of the Bond Fund.

"Refunding Bonds" means a Series or portion of a Series of Bonds issued to retire or refund all or any portion of another Series of Bonds, Parity Indebtedness or other obligations of the City.

"Repair and Replacement Reserve Fund" means the repair and replacement reserve fund established under the Master Indenture.

"Replacement Reserve Requirement" means an amount to be determined by the City pursuant to Section 7.8(b) of the Master Indenture, but not less than \$1,000,000.

"Revenue Fund" means the fund established in the Master Indenture.

"Revenues" mean all revenues, receipts and other income derived or received by the City from the ownership or operation of the System including, without limitation, any investment earnings and transfers, if any, from the Rate Stabilization Fund to the Revenue Fund, but excluding (i) any gift, grant or contributions to the extent restricted by the donor or grantor to a particular purpose inconsistent with its use for the payment of Senior Debt Service or Subordinate Debt Service, (ii) proceeds derived from insurance or condemnation, and (iii) any transfers from the Revenue Fund to the Rate Stabilization Fund. Any lump sum prepayment of Revenues received by the City will be reserved by the City in a subaccount in the Revenue Fund and disbursed from the subaccount and recognized as Revenues monthly over the appropriate accrual period.



"ROI" means for any Fiscal Year the amount budgeted to be paid with respect to the System to the general fund of the City as a return on the City's investment in the System.

"Senior Debt Service" means for any period of twelve consecutive months the sum of Bond Debt Service and Parity Debt Service during the period.

"Serial Bonds" mean any Bonds of a Series which are stated to mature in annual installments including any Capital Appreciation Bonds, but not including any Term Bonds.

"Series" or "Series of Bonds" mean a separate series of Bonds issued under the Master Indenture pursuant to a Supplemental Indenture.

"Service Contracts" mean any contracts or agreements for Contracted Services entered into by the City from time to time.

"Subordinate Debt" means bonds, notes or other evidences of indebtedness of the City, including the Debt Service Component of the Cost of Contracted Services and any lease which is required to be capitalized by generally accepted accounting principles which is not a Parity Debt Service Component, secured by a pledge of Net Revenues expressly made subordinate to the pledge of Net Revenues securing the Bonds and Parity Indebtedness or which is unsecured.

"Subordinate Debt Service" means for any period of twelve consecutive months the Debt Service Requirement with respect to any Subordinate Debt and the Debt Service Component of the Cost of Contracted Services which is not a Parity Debt Service Component.

"Subordinate Debt Service Fund" means the subordinate debt service fund established in the Master Indenture.

"Supplemental Indenture" means any indenture supplemental to or amendatory of the Master Indenture as originally executed, which is duly executed and delivered in accordance with the provisions of the Master Indenture.

"System" means the water system, owned or operated by or on behalf of the City, including but not limited to, any Project and all additions, extensions, improvements and replacements to the System, and any other utility system which may be added by the City as a part of the System pursuant to the Master Indenture, but excluding any independent utility systems hereafter owned or operated by the City and accounted for separately by the City unless made part of the System by the City.

"Term Bonds" means Bonds of a Series which are stated to mature on one date and which are subject to scheduled mandatory redemption before such date.

"Test Period" has the meaning given to it in the Indenture in connection with the issuance of Additional Bonds.

"Variable Rate Indebtedness" means any Indebtedness, interest on which is not established at the time of its issuance at a rate which is fixed until its maturity.

### **Summary of Certain Provisions of the Indenture**

The following is a brief summary of certain provisions contained in the Master Indenture and the Tenth Supplemental Indenture and does not purport to be a complete statement of all of the provisions of those documents. Reference is made to the Master Indenture and the Tenth Supplemental Indenture in their entirety for complete information on their terms and on the terms of the 2013 Bonds, the applicable security provisions and the application of the Revenues. See also "DESCRIPTION OF THE BONDS" and "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS" in the Official Statement.

#### **Definitions**

Unless defined below, all capitalized terms used in this Appendix have the meanings set forth in the foregoing section entitled "Definitions of Certain Terms."

#### **Additional Bonds**

In connection with the issuance of Additional Bonds, the City is required to file, among other things, the following documents with the Trustee:

(1) A certificate of the City dated as of the date of delivery of the Additional Bonds and signed by the City Manager or Director of Finance to the effect that to the best of his or her knowledge, upon and immediately following the issuance of the Additional Bonds, no event of default under the Indenture and no event or condition which, with notice or lapse of time or both, would become an event of default, will have occurred and be continuing or, if such an event or condition has occurred and is continuing, it will be cured upon the issuance of the Additional Bonds or upon completion of the Project to be financed with the Additional Bonds.

(2) A copy of the resolution or ordinance and an executed counterpart of the supplement to the Master Indenture authorizing the Additional Bonds, which supplement will specify, among other things, the details of the Additional Bonds and the amount, if any, to be deposited from the proceeds of sale of the Additional Bonds into the Debt Service Reserve Fund.

(3) An opinion of Bond Counsel, subject to customary exceptions and qualifications, to the effect that the issuance of the Additional Bonds has been duly authorized, that the Additional Bonds are valid and binding limited obligations of the City entitled to the benefits and security of the Master Indenture and that the interest on the Additional Bonds is excludable from gross income for purposes of federal income taxation or, if the interest is not excludable, that the issuance and the intended use of the proceeds of the Additional Bonds will have no adverse effect on the tax exempt status of interest on any other Bonds then Outstanding, the interest on which was excludable from gross income when issued.

(4) If the Additional Bonds are issued to pay the cost of acquiring, renovating, equipping or constructing improvements, extensions, additions or replacements to the System,

(a) A written statement from (i) Director of Utilities setting forth his or her estimate of the cost of the acquisition, renovation, equipping or construction (including all financing, reserves and related costs) and the date on which such acquisition, renovation, equipping or construction will be completed and (ii) the Director of Finance giving his or her opinion that the proceeds of the Additional Bonds, together with any other money available for such purpose, will be sufficient to pay the cost of the acquisition, renovation, equipping or construction; and

(b) The amount of the Net Revenues as received during any twelve (12) consecutive months of the twenty four months immediately preceding the issuance of the Bonds (the "Test Period"), as certified by the Director of Finance or the Consulting Engineer, subject to adjustment as permitted in subsection (c) below, will be equal to the revenue covenant contained in the Master Indenture for the Test Period taking into account the maximum principal and interest payments due on (i) any Bonds and Parity Indebtedness then outstanding, and (ii) the Bonds and Parity Indebtedness then proposed to be issued.

(c) Adjustments to Net Revenues permitted by the foregoing subsection, shall be certified by the Director of Finance or the Consulting Engineer to the Director of Utilities and shall be computed as follows:

(i) If the City, before the issuance of the proposed Bonds, has increased the rates, fees, rentals or other charges for the services or use of the System, the Net Revenues for the Test Period shall be adjusted to include the Net Revenues which would have been derived from the System during the Test Period as if such increased rates, fees, rentals or other charges had been in effect during the Test Period.

(ii) If the City has acquired or has contracted to acquire any privately or publicly owned existing water system, sewer system, solid waste collection and disposal system, stormwater retention system, or any other utility system that the City will consolidate with the System, the cost of which shall be paid from all or part of the proceeds of the issuance of the proposed Bonds, then the Net Revenues derived from the System during the Test Period shall be increased by adding to the Net Revenues for the Test Period the projected Net Revenues which would have been derived from the System as if such utility system had been operated by the City as part of the System during the Test Period.

(iii) If the City has entered into a contract on or before the date of the issuance of the proposed Bonds or Parity Indebtedness, with any public body whereby the City has agreed to furnish services consistent with the services performed by the System, which contract (A) is for a duration of not less than the final maturity of the Bonds or Parity Indebtedness proposed to be issued, or (B) if less than the final maturity of such Bonds or Parity Indebtedness, contain provisions obligating the party contracting with the City to pay in full its allocated share of the costs of capital improvements to the System needed to carry out the terms of the contract, then the Net Revenues of the System during the Test Period shall be increased by the least amount which the entity receiving such services shall be required to pay by the terms of the contract in any one year during which the City is to furnish services and such Bonds or Parity Indebtedness are anticipated to be Outstanding, after deducting from such payment the estimated proportion of operating expenses and repair, renewal and replacement cost attributable in such year to such services.

(iv) If there is an estimated increase in Revenues to be received by the City, as a result of additions, extensions or improvements to the System during the period of three years after delivery of the Bonds and the governing body of the City has by ordinance or resolution authorized the additions, extensions or improvements (and if such additions, extensions or improvements involve another jurisdiction, the governing body of such other jurisdiction has also given its approval by ordinance or resolution), then the Net Revenues derived from the System during the Test Period will be increased by the estimated average annual additional Net Revenues for the first two full years after such additions, improvements or extensions have been placed in service.

In connection with any Net Revenue adjustment permitted by subparagraphs (ii), (iii) or (iv) above, the City may take into account any increases in rates, fees or charges that have been approved by the City at the time of certification.

(5) If the Additional Bonds are issued to refund any of the Bonds or other Parity Indebtedness of the City issued under the Indenture,

(a) Evidence satisfactory to the Trustee that the City has made provision as required by the Indenture for the payment or redemption of all Bonds or Parity Indebtedness of the City to be refunded;

(b) A written determination by the Trustee or by a firm of independent certified public accountants that the proceeds (excluding accrued interest) of the refunding bonds, together with any other money deposited with the Trustee for such purpose and the investment income to be earned on funds held by the Trustee for the payment or redemption of Bonds or Parity Indebtedness, will be sufficient to pay, whether upon redemption or at maturity, the principal of and premium, if any, and interest on the Bonds or Parity Indebtedness to be refunded and the estimated expenses incident to the refunding; and

(c) (i) A written determination by the Trustee or by a firm of independent certified public accountants that after the issuance of the refunding bonds and the provision for payment or redemption of all Bonds or Parity Indebtedness of the City to be refunded, the Senior Debt Service for each Fiscal Year in which there will be Outstanding Bonds of any Series not to be refunded will be not more than the Senior Debt Service for the Fiscal Year would have been on all Outstanding Bonds and Parity Indebtedness immediately before the issuance of the refunding bonds, including the Bonds and Parity Indebtedness of the City to be refunded; or (ii) in the case of Refunding Bonds issued to refund Parity Indebtedness issued under the Master Indenture in the form of Bond Anticipation Notes, the City shall provide the written certification required in 4(b) above; or (iii) if the Refunding Bonds will satisfy neither (i) nor (ii) above, a written certification similar to that required in 4(b) above with respect to the first two full Fiscal Years following the issuance of the Refunding Bonds.

(6) If the Additional Bonds are issued to refund obligations of the City with respect to the System other than Bonds or Parity Indebtedness, the certifications similar to those required in 5(a) and 4(b) above.

The proceeds of Additional Bonds (including accrued interest) will be applied as set forth in the Tenth Supplemental Indenture authorizing their issuance.

### **Parity Indebtedness**

The City may designate the Debt Service Component of the Cost of Contracted Services as Parity Indebtedness and may issue or refinance other Parity Indebtedness provided the requirements of paragraphs (4) or (5), as appropriate, for the issuance of Additional Bonds are met as if the Parity Indebtedness was a series of Additional Bonds. Parity Indebtedness will be secured by the pledge of Net Revenues under the Indenture on a parity with Bonds issued under the Indenture, except Parity Indebtedness will not be secured by money in the Project Fund, the Bond Fund or the Debt Service Reserve Fund.

### **Subordinate Debt**

Nothing in the Indenture prohibits or prevents the City from issuing Subordinate Debt for any lawful purpose payable from and secured by a pledge of Net Revenues subject and subordinate to the payment of any Bonds and Parity Indebtedness; provided, however, any Subordinate Debt may only be declared immediately due and payable if payment of the Bonds and Parity Indebtedness has been accelerated in accordance with the Indenture.

### **Establishment of Funds and Accounts**

The following funds are established under the Indenture, to be held as follows:

- (1) City of Norfolk, Virginia, Project Fund, to be held by or at the direction of the City;
- (2) City of Norfolk, Virginia, Revenue Fund, to be held by or at the direction of the City;
- (3) City of Norfolk, Virginia, Operating Fund, to be held by or at the direction of the City;
- (4) City of Norfolk, Virginia, Bond Fund, in which there is established an Interest Account, a Principal Account and a Redemption Account and a Capitalized Interest Account, to be held by the Trustee;
- (5) City of Norfolk, Virginia, Parity Debt Service Fund, to be held by or at the direction of the City;
- (6) City of Norfolk, Virginia, Debt Service Reserve Fund, to be held by the Trustee;
- (7) City of Norfolk, Virginia, Subordinate Debt Service Fund, to be held by or at the direction of the City;

- (8) City of Norfolk, Virginia, Repair and Replacement Reserve Fund, to be held by or at the direction of the City;
- (9) City of Norfolk, Virginia, Rate Stabilization Fund, to be held by or at the direction of the City; and
- (10) City of Norfolk, Virginia, General Reserve Fund, to be held by or at the direction of the City.

### **Project Fund**

The City will maintain for each Series of Bonds a separate subaccount, as provided in any supplemental indenture. Net Proceeds used to repair, restore or reconstruct the System will also be deposited in the Project Fund and maintained within separate subaccounts for each Series of Bonds.

### **Revenue Fund**

The City will collect and deposit in the Revenue Fund as received all Revenues. Money on deposit in the Revenue Fund will be used as follows:

- (1) To make monthly deposits to the Operating Fund in an amount such that the balance on deposit in the Fund will be equal to not less than one sixth of the Operating Expenses budgeted to be paid from the Fund in the current Annual Budget;
- (2) To make equal monthly deposits to the Bond Fund and Parity Debt Service Fund so that there will be sufficient money in the Funds to pay the Bonds and Parity Indebtedness when due;
- (3) If the amount in the Debt Service Reserve Fund or any account therein is less than its respective Debt Service Reserve Requirement, the amount of money remaining in the Revenue Fund necessary to restore the Debt Service Reserve Fund and the accounts therein to their respective Debt Service Reserve Requirements on a pro rata basis, or all of the money remaining if less than the amount necessary; provided that such restoration of the amount in the Debt Service Reserve Fund and any account therein must occur not later than twelve months following the determination of the deficiency;
- (4) To make deposits to the Subordinate Debt Service Fund of amounts determined by the City to be necessary to pay Subordinate Debt when due;
- (5) To make deposits to the Repair and Replacement Reserve Fund to accumulate the Replacement Reserve Requirement in thirty six approximately equal installments and then to restore any deficit in sixty approximately equal monthly installments;
- (6) To make other deposits to the Repair and Replacement Reserve Fund in amounts determined by the City;
- (7) To make deposits to the Rate Stabilization Fund to accumulate the Rate Stabilization Requirement in twenty four approximately equal installments and thereafter to restore any deficit in such Fund in the same number of installments; and
- (8) To make deposits of any remaining balance to the General Reserve Fund.

### **Operating Fund**

The City will pay Operating Expenses from the Operating Fund as they become due and in accordance with the purposes and amounts provided in the Annual Budget. In the event the balance in the Operating Fund is insufficient for its purposes, the City will transfer to the Operating Fund such amounts as may be necessary first from the General Reserve Fund and then from the Repair and Replacement Reserve Fund. The City may also make transfers from the Rate Stabilization Fund to the Operating Fund to cover any deficit and may do so before, in

combination with, or in lieu of transfers from the General Reserve Fund and the Repair and Replacement Reserve Fund. Interest received on and any profit realized from the investment of money in the Operating Fund will be transferred as earned to the Revenue Fund.

### **Bond Fund**

The Trustee will pay the principal of and interest on the Bonds when due from the Principal Account and the Interest Account, respectively. The Trustee will use money in the Redemption Account of the Bond Fund to redeem Bonds pursuant to any optional redemption provision exercised by the City. In the event the balances on deposit in the Principal Account or the Interest Account are insufficient, the Trustee will transfer to such Accounts the amount necessary to pay the Bonds from the Debt Service Reserve Fund after making transfers first from the General Reserve Fund, the Repair and Replacement Reserve Fund and the Rate Stabilization Fund. Interest received on and any profit realized from the investment of money in the Bond Fund will become a part of the account in the Bond Fund in which the investment is held.

### **Parity Debt Service Fund**

The City will use money in the Parity Debt Service Fund to make payments on any Parity Indebtedness when due. Interest received on and any profit realized from the investment of money in the Parity Debt Service Fund will be deposited when received in the Revenue Fund. Amounts in the Parity Debt Service Fund do not secure the Outstanding Series of Bonds and will not secure the 2013 Bonds or any Additional Bonds.

### **Debt Service Reserve Fund**

The Debt Service Reserve Fund and any accounts therein will be used by the Trustee to make transfers to the Bond Fund to the extent necessary to pay when due the principal of and interest on the Bonds if the amounts on deposit in the Principal and Interest Accounts of the Bond Fund, and any amounts transferred by the City to the Debt Service Reserve Fund from the General Reserve Fund and the Repair and Replacement Reserve Fund are insufficient for such purpose. If there is a deficiency in the balance on deposit in the Debt Service Reserve Fund or any account therein, the City will transfer funds from the Revenue Fund to restore the Fund or account in the manner described above.

In lieu of maintaining and depositing money or securities in the Debt Service Reserve Fund or any account therein, the City may deposit with the Trustee a letter of credit, bond insurance policy or surety bond in an amount equal to all or a portion of the requirement for the Fund or such account, provided the issuer of the letter of credit or surety bond or the bond insurer, as appropriate, is rated in one of the two highest long term debt rating categories by the Rating Agencies then rating the Bonds, without regard to any refinement or gradation of such rating category by numerical modifier or otherwise. Any letter of credit, bond insurance policy or surety bond will permit the Trustee to draw or obtain amounts under it for deposit in the Debt Service Reserve Fund or such account that, together with any money already on deposit therein, are not less than the required balance. In addition, the Supplemental Indenture corresponding to any Series of Bonds (other than the Prior Series) may provide for the establishment of a separate account in the Debt Service Reserve Fund to secure only such Series of Bonds (and any Bonds issued to refund such Series in part), with such Series of Bonds having no claim on the other moneys deposited to the credit of the Debt Service Reserve Fund or any other account therein, the Debt Service Reserve Requirement for such Series of Bonds will be calculated as set forth in the corresponding Supplemental Indenture.

The Trustee will make a drawing on the letter of credit or obtain funds under the bond insurance policy or surety bond before its expiration or termination (1) whenever money is required for the purposes for which Debt Service Reserve Fund money may be applied and (2) unless the letter of credit or bond insurance policy has been extended or a qualified replacement for it delivered to the Trustee, in the event the City has not deposited money in immediately available funds equal to the respective requirement at least two Business Days preceding the expiration or termination of the letter of credit, bond insurance policy or surety bond.

If the City provides the Trustee with a letter of credit, bond insurance policy or surety bond, the Trustee will transfer the funds then in the Debt Service Reserve Fund or account therein to the City, provided the City

delivers to the Trustee an opinion of Bond Counsel that such transfer of funds will not adversely affect the exclusion from gross income for purposes of federal income taxation of interest on any Bonds and the City covenants to comply with any directions or restrictions contained in such opinion concerning the use of the funds.

### **Subordinate Debt Service Fund**

The City will use money in the Subordinate Debt Service Fund to make payments of debt service on any Subordinate Debt when due. Interest received on and any profit realized from the investment of money in the Subordinate Debt Service Fund will be deposited when received in the Revenue Fund.

### **Repair and Replacement Reserve Fund**

The City may use amounts in the Repair and Replacement Reserve Fund for any of the following purposes:

- (1) Reasonable and necessary expenses with respect to the System for major repairs, replacement or maintenance of items of a type not recurring annually;
- (2) To pay costs of reconstruction of parts of the System;
- (3) To pay costs of construction of parts of the System;
- (4) To pay any capital costs with respect to the System;
- (5) To make payments on Service Contracts; or
- (6) To make deposits to the Revenue Fund, the Operating Fund, the Bond Fund, the Parity Debt Service Fund or the Debt Service Reserve Fund.

At least biennially, the City agrees to review the adequacy of the amount of the Replacement Reserve Requirement under then current operating conditions, and in light of then applicable operating, replacement and maintenance costs of the major components of comparable systems. If at any time the City determines in its judgment that the amount of the Replacement Reserve Requirement should be increased or decreased, it will notify the Trustee of its determination setting forth the amount of the new Replacement Reserve Requirement. The new Replacement Reserve Requirement will take effect on the date of the receipt of the notice by the Trustee unless some other effective date is specified in the notice in which case the date specified in the notice will control. In no event will such requirement be reduced below \$1,000,000.

If the amount on deposit in the Repair and Replacement Reserve Fund exceeds the Replacement Reserve Requirement, the City may transfer the excess to the Rate Stabilization Fund or the General Reserve Fund.

### **Rate Stabilization Fund**

The City may at its option make transfers from the Rate Stabilization Fund to the Revenue Fund and amounts so transferred will be deemed Revenues. Interest earnings or any profit from investing the Rate Stabilization Fund will be transferred at least monthly to the Revenue Fund.

The City may at any time reduce or increase the balance in the Rate Stabilization Fund to any amount, including zero upon certification of the Director of Finance setting forth the amount to be withdrawn or added. Upon satisfaction of the requirements set forth above, the amount of the reduction in the Rate Stabilization Fund will be transferred from the Rate Stabilization Fund to the Revenue Fund, unless otherwise specified in a Supplemental Indenture.

## **General Reserve Fund**

Money on deposit in the General Reserve Fund may be used for any lawful purpose. The City has agreed to use money in the General Reserve Fund to cure deficits in the Operating Fund, the Bond Fund, the Parity Debt Service Fund and the Debt Service Reserve Fund. Money in the General Reserve Fund is not pledged to secure the Bonds or Parity Indebtedness.

## **Investments**

Any money held in any funds and accounts established by the Indenture, except the Bond Fund and the Debt Service Reserve Fund, may be separately invested and reinvested by the Trustee, at the request of and as directed by an Authorized Representative of the City, in any of the following investments which are at the time legal investments for public funds under the Investment Act, or any subsequent provision of law applicable to such investments:

(1) Bonds, notes and other evidences of indebtedness to which the full faith and credit of the Commonwealth is pledged for the payment of principal and interest or which are unconditionally guaranteed as to the payment of principal and interest by the Commonwealth and which are rated on one of the two highest debt rating categories by at least one of the Rating Agencies;

(2) Government Obligations;

(3) Government Certificates;

(4) Bonds, notes and other evidences of indebtedness of any county, city, town, district, authority or other public body of the Commonwealth which are rated in one of the two highest long term debt rating categories by at least one of the Rating Agencies;

(5) Savings accounts, time deposits and certificates of deposit in any Bank, including the Trustee and its affiliates, or savings and loan association within the Commonwealth, provided that the funds are secured in the manner required by the Virginia Security for Public Deposits Act or any successor legislation and no deposit will be made for more than five years;

(6) Obligations of the Export Import Bank, the Farmers Home Administration, the General Services Administration, the United States Maritime Administration, the Small Business Administration, the Government National Mortgage Association, the Department of Housing and Urban Development and the Federal Housing Administration, provided such obligations represent the full faith and credit of the United States;

(7) Bonds, notes or other evidences of indebtedness of the Federal National Mortgage Association, the Federal Home Loan Mortgage Corporation, the Federal Home Loan Bank and the Federal Farm Credit Bank;

(8) Commercial paper issued by corporations, including banks and bank holding companies, organized under the laws of the United States or any State which is rated by Moody's Investors Service, Inc., or its successor, within its NCO/Moody's rating of prime 1 and by Standard & Poor's Ratings Services, or its successor, within its rating of A 1, and which matures not more than 270 days after the date of its purchase;

(9) Corporate notes with a rating of at least Aa by Moody's and AA by Standard & Poor's Ratings Services with a maturity of not more than five years;

(10) Banker's acceptance, as permitted by the Investment Act, with banks rated in one of the two highest debt rating categories by at least one of the Rating Agencies;

(11) Investments pursuant to the Government Non Arbitrage Act, Article 7.1, Chapter 14, Title 2.1 of the Virginia Code; and



(12) Such other investments as may be permitted by the Investment Act; provided they are rated within one of the two highest rating categories by at least one of the Rating Agencies.

Any money held by the Trustee in the Bond Fund will be separately invested and reinvested by the Trustee, at the request of and as directed by an Authorized City Representative, only in investments described in subsections (1), (2), (3), (4) and (5) above, which are at the time legal investments for public sinking funds under the Investment Act, or any subsequent provisions of law applicable to such investments.

Any money held by the Trustee in the Debt Service Reserve Fund will be separately invested and reinvested by the Trustee, at the request of and as directed by an Authorized City Representative, only in investments described in subsections (1), (2), (3), (4), (5), (6) and (7) above.

Any investments described above may be purchased by the Trustee or the City pursuant to an overnight term or open repurchase agreement in accordance with the provisions of the Indenture.

Investments in a money market fund or in the shares of any other management type investment company registered under the Investment Company Act of 1940, the investments of which fund or company are exclusively in obligations or securities described in paragraphs (1), (2), (3), (4), (6) or (7) above, will be considered investments in obligations described in such subsections, provided that the fund or company, which investments are comprised exclusively of the obligations described in subsections (1), (4) or (7), is rated in the highest debt rating category by at least one of the Rating Agencies.

Subject to the provisions of any Supplemental Indenture, all investments will be held by or under the control of the Trustee or the City, as the case may be, and while so held will be deemed a part of the fund or account in which the money was originally held. Except as otherwise specifically provided in the Master Indenture or any Supplemental Indenture, the interest received on and any profit realized from such investments will be transferred not less frequently than monthly to the City for deposit in the Revenue Fund. The Trustee and the City will sell and reduce to cash a sufficient amount of such investments whenever the cash balance in any fund or account is insufficient for its purpose.

Investments of money in the Debt Service Reserve Fund must mature or be payable at the option of the Trustee for purposes of the Debt Service Reserve Fund not more than 10 years after the date of their purchase.

Money in funds and accounts held by the City may be pooled and commingled for purposes of investment.

Investments are subject to change to the extent and in the manner permitted by subsequent modification or amendment to the Investment Act; provided, however, any rating limitations imposed by the Indenture on a particular type or category of investment will apply to any additional permitted investments of the same or similar type or category.

## **Particular Covenants**

*Compliance with Indenture; Payment of Bonds.* In the Indenture, the City covenants to perform its obligations under the Indenture and related documents and to pay the Bonds, but only from the Net Revenues and other funds specifically pledged for such purpose.

*Revenue Covenant.* The City will establish, fix, charge and collect rates, fees and other charges for the use of and for the services furnished by the System, and will, from time to time and as often as appears necessary, revise such rates, fees and other charges, so that in each Fiscal Year Net Revenues are not less than the greater of (i) the sum of 1.1 times Senior Debt Service and 1.0 times Subordinated Debt Service for the Fiscal Year and (ii) 1.0 times the funding requirements for transfers from the Revenue Fund to the Operating Fund, the Bond Fund, the Parity Debt Service Fund, the Debt Service Reserve Fund, the Subordinate Debt Service Fund and the Repair and Replacement Reserve Fund as set forth in the Master Indenture.

*Billing; Enforcement of Charges; Free Service.* The City will bill the users of the services of the System no less frequently than quarterly, except in the case of wholesale customers who will be billed as provided in the contract between the City and the wholesale customer. The City has agreed to take all appropriate steps to enforce collection of any overdue charges by any remedy available at law or in equity. The City will not permit connection with or the use of the System, or furnish any services of the System, without making a charge based on the City's schedule of rates, fees and charges, except for connections and service for fire protection purposes.

*Sale or Encumbrance.* The City may grant easements, licenses or permits across, over or under parts of the System for streets, roads and utilities as will not adversely affect the use of the System. The City may sell or otherwise dispose of any property constituting a part of the System which is either no longer needed or useful or is replaced from the proceeds of the disposition and any other necessary money with property serving the same or similar function. If the proceeds received from a sale or disposition not used to replace property exceeds \$100,000, the proceeds will at the option of the City be (1) applied to the payment or redemption of Bonds then Outstanding and Parity Indebtedness in a manner which in the opinion of Bond Counsel will not adversely affect the exclusion from gross income for purposes of federal income taxation of interest on any Bonds the interest on which was excludable on the date of their issuance or (2) deposited in the Repair and Replacement Reserve Fund and applied solely to pay the costs of capital improvements to the System. The City may transfer all or substantially all of the assets of the System to an authority or special purpose political subdivision; provided, the City's obligations under the Indenture are assumed in writing, the City receives an Opinion of Bond Counsel that the exempt status of the interest income on the Bonds will not be adversely affected and upon compliance with certain other conditions in the Indenture. The City may add to the System sewer systems, solid waste systems, storm water systems and other utilities on certain terms and conditions set forth in the Indenture similar to those regarding the transfer of System assets.

*Creation of Liens.* The City has agreed not to create or suffer to be created any lien or charge upon the System, except as provided in the Indenture.

*Insurance.* To the extent such insurance is available at reasonable costs, the City has agreed to continuously maintain and pay the premiums on insurance against such risks as are customarily insured against by other entities owning and operating similar systems.

*Damage, Destruction, Condemnation and Loss of Title.* If all or any part of the System is destroyed or damaged by fire or other casualty, condemned or lost by failure of title, the City will restore promptly the property damaged or destroyed to substantially the same condition as before the damage, destruction, condemnation or loss of title with such alterations and additions as the City may determine and which will not impair the capacity or character of the System for the purpose for which it then is being used or is intended to be used. The Trustee will apply as much as may be necessary of the Net Proceeds received on account of any the damage, destruction, condemnation or loss of title to payment of the cost of such restoration, either on completion or as the work progresses. If the Net Proceeds are not sufficient to pay in full the cost of the restoration and other funds are not available for such purpose, the City will pay from the Repair and Replacement Reserve Fund or the General Reserve Fund so much of the cost as may be in excess of such Net Proceeds. Any balance of Net Proceeds remaining after payment of the cost of restoration will be deposited in the Repair and Replacement Reserve Fund.

*Financial Records and Statements.* The City will keep proper books of records and accounts, in which full and correct entries will be made in accordance with generally accepted accounting principles, of all of its business and affairs. The City will cause an audit of its records and accounts to be made by an independent certified public accountant at the end of each Fiscal Year.

*Arbitrage and Tax Covenants.* The City has covenanted that it will comply throughout the term of the 2012 Bonds with the requirements of Section 148 of the Code applicable to them, including the rebate and reporting requirements of Section 148(f), and that the City will not take or omit to take any action that would cause interest on any of the Bonds to be or to become includable in the gross income of the Owners for purposes of federal income taxation.

## **Events of Default**

Each of the following events is an Event of Default under the Indenture:

- (1) Payment of any interest on any Bond or Parity Indebtedness is not made when due and payable;
- (2) Payment of the principal of or premium, if any, on any Bond or Parity Indebtedness is not made when due and payable;
- (3) Subject to certain rights of the City to cure such defaults as set forth in the Master Indenture, default in the observance or performance of any other covenant, condition or agreement on the part of the City under the Master Indenture, any Supplemental Indenture, in the Bonds or any document under which Parity Indebtedness has been issued; or
- (4) Appointment by a court of competent jurisdiction of a receiver for all or any substantial part of the Revenues and other funds of the City pledged pursuant to the Master Indenture, or the filing by the City of any petition for reorganization of the City or rearrangement or readjustment of the obligations of the City under provisions of any applicable bankruptcy or insolvency law.

## **Remedies; Rights of Bondholders**

Upon the occurrence and continuation of an event of default under the Indenture, the Trustee may, and if requested by the Owners of not less than 25% in aggregate principal amount of Bonds and Parity Indebtedness then Outstanding will, by notice to the City, declare the entire unpaid principal of, Accreted Value of and interest on the Bonds and Parity Indebtedness due and payable. Upon any such declaration the City will pay to the Owners the entire unpaid principal of and accrued interest on the Bonds and Parity Indebtedness, but only from the Net Revenues and the other funds specifically pledged in the Indenture for such purpose.

Upon the occurrence and continuation of an event of default under the Indenture the Trustee may pursue any available remedy, at law or in equity, to enforce the payment of the principal of, Accreted Value of, premium, if any, and interest on the Bonds and Parity Indebtedness, to enforce any covenant or condition under the Indenture or to remedy any event of default.

Upon the occurrence and continuation of an event of default under the Indenture, if requested to do so by the Owners of at least 25% in aggregate principal amount of Bonds and Parity Indebtedness then Outstanding and if indemnified as provided in the Indenture, the Trustee will exercise such of the rights and powers conferred by the Indenture as the Trustee, upon being advised by counsel, deems most effective to enforce and protect the interests of the Owners.

Anything in the Indenture to the contrary notwithstanding the Owners of a majority in aggregate principal amount of Bonds and Parity Indebtedness then Outstanding will have the right, upon providing satisfactory security and indemnity to the Trustee, by an instrument in writing executed and delivered to the Trustee, to direct the method and place of conducting all remedial proceedings to be taken by the Trustee under the Indenture.

No Owner of any Bonds or Parity Indebtedness will have any right to institute any suit action or proceeding in equity or at law for the enforcement of the Indenture or any remedy under the Indenture or the Bonds except as expressly provided in the Indenture.

## **Waiver of Events of Default**

The Trustee will waive any event of default under the Indenture and its consequences and rescind any declaration of acceleration upon the written request of the Owners of a majority in aggregate principal amount of all Outstanding Bonds and Parity Indebtedness. If any event of default with respect to the Bonds and Parity Indebtedness has been waived as provided in the Master Indenture, the Trustee will promptly give written notice of the waiver to the City and by first class mail, postage prepaid, to all Owners of Outstanding Bonds and Parity

Indebtedness if the Owners had previously been given notice of the event of default. No waiver, rescission and annulment will extend to or affect any subsequent event of default or impair any right, power or remedy available under the Master Indenture.

### **Discharge of Indebtedness**

If (1) all Bonds and Parity Indebtedness secured by the Indenture have become due and payable or irrevocable instructions to redeem the Bonds and Parity Indebtedness or to pay them at maturity have been given by the City to the Trustee and (2) the Trustee holds cash or noncallable Government Obligations or Government Certificates the principal of, Accreted Value of, and the interest on which at maturity will be sufficient (i) to redeem in accordance with the relevant section of the Indenture all Bonds and Parity Indebtedness that have been called for redemption on the date set for such redemption, (ii) to pay at maturity all Bonds and Parity Indebtedness not irrevocably called for redemption, (iii) to pay interest accruing on all Bonds and Parity Indebtedness until their redemption or payment at maturity, and (iv) to pay to the Trustee its reasonable fees and expenses, including the costs and expenses of cancelling and discharging the Indenture, the Trustee will cancel and discharge the Indenture, and assign and deliver to the City any property at the time subject to the Indenture that may then be in its possession, except funds or securities in which such funds are invested which are held by the Trustee for the payment of principal of, Accreted Value of, or premium, if any, or interest on the Bonds and Parity Indebtedness.

Bonds and Parity Indebtedness will be deemed paid and no longer Outstanding for the purposes of the Indenture when there has been deposited with the Trustee cash or noncallable Government Obligations or Government Certificates the principal of, Accreted Value of, and interest on which will be sufficient to pay or redeem such Bonds and Parity Indebtedness and to pay interest on them to their payment or redemption date (whether on or before the date of their maturity or their redemption date), however, that if such Bonds and Parity Indebtedness are to be redeemed before their maturity, notice of the redemption must have been duly given or irrevocable instructions to redeem such Bonds and Parity Indebtedness must have been given to the Trustee.

### **Modification or Amendment of the Indenture**

The City and the Trustee may, without consent of, or notice to, any of the Owners, enter into an agreement or agreements supplemental to the Indenture for any one or more of the following purposes:

- (1) To add to the covenants and agreements of the City contained in the Master Indenture and any Supplemental Indentures other covenants and agreements, and to surrender any right or power in the Master Indenture and any Supplemental Indentures reserved to or conferred upon the City;
- (2) To cure any ambiguity, to supply any omission or to cure, correct or supplement any defect or inconsistent provisions contained in the Master Indenture or any Supplemental Indenture;
- (3) To grant to the Trustee for the benefit of the Owners additional rights, remedies, powers or authority;
- (4) To subject to the Master Indenture and the Supplemental Indentures additional collateral;
- (5) To modify the Master Indenture, any Supplemental Indenture, or the Bonds or Parity Indebtedness to permit qualification under the Trust Indenture Act of 1939 or any similar federal statute at the time in effect, or to permit the qualification of the Bonds for sale under the securities laws of any state of the United States;
- (6) To provide for uncertificated Bonds or Parity Indebtedness;
- (7) To evidence the succession of a new Trustee or Paying Agent or the appointment by the Trustee or the City of a Co Trustee or a Co Paying Agent and to specify the rights and obligations of such Co Trustee or Co Paying Agent;

(8) To make any change (including but not limited to a change to reflect any amendment to the Code or interpretations of it by the United States Department of the Treasury or the Internal Revenue Service) that in the opinion of the Trustee does not materially adversely affect the rights of any Owner of any Bonds or Parity Indebtedness;

(9) To make any modifications or changes necessary or appropriate to issue an additional Series of Bonds or any Parity Indebtedness; or

(10) To make any modifications or changes necessary or appropriate to permit Bonds of any Series or Parity Indebtedness to be secured by a credit or liquidity facility or to accommodate the issuance of Bonds or Parity Indebtedness bearing variable interest rates, including the addition of provisions for the appointment of tender agents and similar parties and the specification of the duties and powers of such parties that in the opinion of the Trustee does not materially adversely affect the rights of any Owner of any Bonds or Parity Indebtedness.

Any other modification or alteration of the Master Indenture and any Supplemental Indenture or the rights and obligations of the City or of the Owners of the Bonds or Parity Indebtedness may be made by the City and the Trustee with the consent of (1) the Owners of a majority in aggregate principal amount of the Bonds and Parity Indebtedness then Outstanding; or (2) in case less than all of the Bonds and Parity Indebtedness then Outstanding are affected by the modifications or amendments, the Owners of a majority in aggregate principal amount of the Bonds and Parity Indebtedness so affected then Outstanding. However, without the consent of each Owner affected, no modification or alteration may (i) extend the maturity of the principal of, or interest on, any Bond or Parity Indebtedness, (ii) reduce the principal amount of, or rate of interest on, any Bond or Parity Indebtedness, (iii) effect a privilege or priority of any Bond or Bonds over any other Bond or Bonds, (iv) reduce the percentage of the principal amount of the Bonds or Parity Indebtedness required for consent to such modification or alteration, (v) if applicable, impair the exclusion of interest on any Bonds or Parity Indebtedness from gross income for purposes of federal income taxation, (vi) eliminate or extend the mandatory redemption date of any Bonds or Parity Indebtedness or reduce the redemption price of Bonds or Parity Indebtedness, (vii) create a lien ranking prior to or on a parity with the lien of the Master Indenture or (viii) deprive any Owner of the lien created by the Master Indenture on such property.

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**WATER UTILITY FUND FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2011 AND 2012**

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# Water Utility Fund of the City of Norfolk, Virginia

Financial and Compliance Report  
Year Ended June 30, 2012

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KPMG LLP  
Suite 1900  
440 Monticello Avenue  
Norfolk, VA 23510

## Independent Auditors' Report

The Honorable Members of City Council  
Water Utility Fund of the City of Norfolk, Virginia:

We have audited the accompanying statement of net assets of the Water Utility Fund of the City of Norfolk, Virginia (the Fund), as of June 30, 2012 and 2011, and the related statements of revenues, expenses, and changes in fund net assets and cash flows for the years then ended. These financial statements are the responsibility of the management of the City of Norfolk. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the *Specifications for Audits of Counties, Cities and Towns* (Specifications), issued by the Auditor of Public Accounts of the Commonwealth of Virginia. Those standards and specifications require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the City's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

As discussed in note 1 to the financial statements, the accompanying financial statements present only the Fund and do not purport to, and do not, present fairly the financial position of the City of Norfolk, Virginia, the changes in its financial position or its cash flows, where applicable, in conformity with U.S. generally accepted accounting principles.

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the Water Utility Fund of the City of Norfolk, Virginia, as of June 30, 2012 and 2011, and the respective changes in financial position and its cash flows for the years then ended in conformity with U.S. generally accepted accounting principles.

The Fund has not presented Management's Discussion and Analysis that U.S. generally accepted accounting principles has determined is necessary to supplement, although not be a part of, the financial statements.

KPMG LLP is a Delaware limited liability partnership,  
the U.S. member firm of KPMG International Cooperative  
("KPMG International"), a Swiss entity.



In accordance with *Government Auditing Standards*, we have also issued our report dated January 15, 2013 on our consideration of the Fund's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* and should be considered in assessing the results of our audits.

U.S. generally accepted accounting principles requires that the Supplemental Other Post Employment Benefit (OPEB) Information on page 21 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Fund's basic financial statements. The Supplemental Debt Capacity Information is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The Supplemental Debt Capacity Information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Supplemental Debt Capacity Information is fairly stated in all material respects in relation to the basic financial statements as a whole.

KPMG LLP

January 15, 2013

Water Utility Fund of the City of Norfolk, Virginia  
Statements of Net Assets  
June 30, 2012 and 2011

|                                                              | 2012           | 2011           |
|--------------------------------------------------------------|----------------|----------------|
| <b>ASSETS</b>                                                |                |                |
| Current assets:                                              |                |                |
| Cash and short term investments (Note 2)                     | \$ 33,477,706  | \$ 23,874,446  |
| Unrestricted short term investments (Note 2)                 | 11,785,201     | 13,263,144     |
| Receivables:                                                 |                |                |
| Accounts (net) (Note 3)                                      | 7,000,856      | 6,652,303      |
| Unbilled accounts (Note 4)                                   | 4,717,107      | 7,707,220      |
| Accrued investment income                                    | 24,433         | 4,120          |
| Inventories                                                  | 1,479,257      | 1,419,063      |
| Restricted cash held in escrow (Note 2)                      | 325,953        | 246,313        |
| Restricted short term investments (Note 2)                   |                |                |
| Restricted investment held with fiscal agent                 | 5,655,167      | 10,369,965     |
| Reserve funds                                                | 17,522,624     | 17,504,604     |
| Investment restricted for construction                       | 2,081,210      | 32,834,522     |
| Total current assets                                         | 84,069,514     | 113,875,700    |
| Capital assets (Note 5)                                      |                |                |
| Non-depreciable assets                                       | 53,478,329     | 35,070,601     |
| Depreciable assets                                           | 596,364,005    | 580,884,524    |
| Accumulated depreciation and amortization                    | (178,746,840)  | (167,222,416)  |
| Total noncurrent assets                                      | 471,095,494    | 448,732,709    |
| Total assets                                                 | 555,165,008    | 562,608,409    |
| <b>LIABILITIES</b>                                           |                |                |
| Current liabilities:                                         |                |                |
| Vouchers payable                                             | 1,029,210      | 1,209,790      |
| Vouchers payable for CIP projects                            | 3,690,709      | 3,635,806      |
| Contract retainage                                           | 888,773        | 435,885        |
| Accrued interest                                             | 50,784         | 90,666         |
| Accrued payroll                                              | 243,886        | 510,836        |
| Due to General Fund and other City funds                     | 1,488,031      | 1,335,003      |
| Payable to employees' retirement system                      | 2,629,548      | 2,770,254      |
| Compensated absences                                         | 597,785        | 729,300        |
| Current portion of bonds payable (Note 6)                    | 7,739,589      | 13,343,267     |
| Accrued revenue bond interest payable                        | 2,498,910      | 2,839,254      |
| Other liabilities                                            | 211,312        | 175,661        |
| Total current liabilities                                    | 21,068,537     | 27,075,722     |
| Noncurrent liabilities:                                      |                |                |
| General obligation bonds payable (Note 6)                    | 1,069,428      | 1,759,117      |
| Revenue bonds payable (Note 6)                               | 319,417,625    | 329,244,547    |
| Liability for other postemployment benefits (OPEB) (Note 12) | 1,527,018      | 1,199,565      |
| Compensated absences                                         | 446,904        | 366,812        |
| Total noncurrent liabilities                                 | 322,460,975    | 332,570,041    |
| Total liabilities                                            | 343,529,512    | 359,645,763    |
| <b>NET ASSETS</b>                                            |                |                |
| Invested in capital assets, net of related debt              | 157,453,707    | 154,341,182    |
| Restricted                                                   | 11,000,099     | 11,000,000     |
| Unrestricted                                                 | 43,181,690     | 37,621,464     |
|                                                              | \$ 211,635,496 | \$ 202,962,646 |

See Notes to Financial Statements

Water Utility Fund of the City of Norfolk, Virginia

Statements of Revenues, Expenses and Changes in Net Assets  
Years Ended June 30, 2012 and 2011

|                                               | 2012           | 2011          |
|-----------------------------------------------|----------------|---------------|
| Operating revenues:                           |                |               |
| Charges for services                          | \$ 78,148,051  | \$80,573,611  |
| Miscellaneous                                 | 3,052,421      | 2,936,138     |
| Total operating revenues                      | 81,200,472     | 83,509,749    |
| Operating expenses:                           |                |               |
| Personnel services                            | 13,783,048     | 14,703,327    |
| Plant operations                              | 6,589,857      | 6,493,701     |
| Chemicals                                     | 2,967,518      | 3,524,658     |
| Provision for bad debts                       | 230,670        | 429,970       |
| Depreciation and amortization                 | 11,902,145     | 11,915,059    |
| Retirement contribution                       | 2,629,548      | 2,770,254     |
| OPEB expense                                  | 327,453        | 369,128       |
| Administrative expenses                       | 1,852,927      | 2,263,435     |
| Other                                         | 8,997,111      | 9,224,888     |
| Total operating expenses                      | 49,280,277     | 51,694,420    |
| Operating income                              | 31,920,195     | 31,815,329    |
| Nonoperating revenues (expenses):             |                |               |
| Interest income, net of interest capitalized  | 94,747         | 227,695       |
| Intergovernmental Revenues                    | 137,555        | 85,261        |
| Interest expense and fiscal charges           | (15,171,047)   | (16,157,923)  |
| Gain (Loss) on sale or disposal of assets     | 25,788         | (163,629)     |
| Other nonoperating revenue                    | (21,764)       | 6,405         |
| Total nonoperating expenses, net              | (14,934,721)   | (16,002,191)  |
| Net income before contributions and transfers | 16,985,474     | 15,813,138    |
| Capital contributions                         | 187,376        | 129,652       |
| Transfers out                                 | (8,500,000)    | (8,500,000)   |
| Change in net assets                          | 8,672,850      | 7,442,790     |
| Total net assets - beginning                  | 202,962,646    | 195,519,856   |
| Total net assets - end                        | \$ 211,635,496 | \$202,962,646 |

See Notes to Financial Statements

Water Utility Fund of the City of Norfolk, Virginia

Statements of Cash Flows

Years Ended June 30, 2012 and 2011

|                                                                         | 2012          | 2011          |
|-------------------------------------------------------------------------|---------------|---------------|
| <b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>                            |               |               |
| Receipts from customers                                                 | \$ 83,611,362 | \$ 83,300,652 |
| Payments to suppliers                                                   | (9,798,149)   | (9,676,067)   |
| Payments to employees                                                   | (16,871,675)  | (16,645,780)  |
| Other payments                                                          | (10,830,883)  | (12,353,702)  |
| Net cash provided by operating activities                               | 46,110,655    | 44,625,103    |
| <b>CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES:</b>                 |               |               |
| Internal activity, payments from (to) other funds                       | 153,028       | 800,429       |
| Transfers out                                                           | (8,500,000)   | (8,500,000)   |
| Intergovernmental revenues                                              | 137,555       | 85,261        |
| Net cash used in noncapital financing activities                        | (8,209,417)   | (7,614,310)   |
| <b>CASH FLOWS FROM CAPITAL AND RELATING FINANCING ACTIVITIES:</b>       |               |               |
| Proceeds from sale of debt                                              | 176,925,000   | 47,415,000    |
| Proceeds from sale of fixed assets                                      | 42,284        | 15,306        |
| Capital contributions                                                   | 187,376       | 129,652       |
| Purchases of capital assets                                             | (33,757,139)  | (16,726,103)  |
| Refunding of debt principal                                             | (210,160,000) | -             |
| Principal paid on capital debt                                          | (13,343,267)  | (12,697,993)  |
| Interest paid and bond service charges                                  | 14,906,705    | (14,251,042)  |
| Net cash (used in) provided by capital and related financing activities | (65,199,041)  | 3,884,820     |
| <b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>                            |               |               |
| Proceeds from sale of investments                                       | 70,378,732    | 54,292,919    |
| Purchase of investments                                                 | (33,472,463)  | (104,277,055) |
| Interest and dividends                                                  | 74,434        | 226,817       |
| Net cash provided by (used in) investing activities                     | 36,980,703    | (49,757,319)  |
| Net increase (decrease) in cash and cash equivalents                    | 9,682,900     | (8,861,706)   |
| Cash and cash equivalents - beginning of year                           | 24,120,759    | 32,982,465    |
| Cash and cash equivalents - end of year                                 | \$ 33,803,659 | \$ 24,120,759 |

(Continued)

Water Utility Fund of the City of Norfolk, Virginia

Statements of Cash Flows (Continued)

Years Ended June 30, 2012 and 2011

Reconciliation of Operating Income to Net Cash

Provided by Operating Activities:

|                                                                                         |                      |                      |
|-----------------------------------------------------------------------------------------|----------------------|----------------------|
| Operating income                                                                        | \$ 31,920,195        | \$ 31,815,329        |
| Adjustments to reconcile operating income to net cash provided by operating activities: |                      |                      |
| Depreciation and amortization expense                                                   | 11,902,145           | 11,915,059           |
| Provision for bad debt                                                                  | 230,670              | 429,970              |
| Loss on disposal of assets                                                              | (16,496)             | (178,935)            |
| Change in assets and liabilities:                                                       |                      |                      |
| Accounts receivable (net), billed and unbilled                                          | 2,410,890            | (209,097)            |
| Inventories                                                                             | (60,194)             | 119,967              |
| Vouchers payable                                                                        | (180,580)            | 222,325              |
| Accrued payroll                                                                         | (459,079)            | 827,801              |
| Other liabilities                                                                       | 363,104              | (317,316)            |
| Net cash provided by operating activities                                               | <u>\$ 46,110,655</u> | <u>\$ 44,625,103</u> |

Reconciliation of cash and short term investments to the

Statement of Net Assets:

|                                                                   |                      |                      |
|-------------------------------------------------------------------|----------------------|----------------------|
| Cash and short term investments                                   | \$ 33,477,706        | \$ 23,874,446        |
| Restricted cash held in escrow                                    | 325,953              | 246,313              |
| Total cash and short term investments per Statement of Net Assets | <u>\$ 33,803,659</u> | <u>\$ 24,120,759</u> |

Noncash investing, capital and financing activities:

|                                                                    |              |              |
|--------------------------------------------------------------------|--------------|--------------|
| Unrealized gain/(loss) on investments                              | \$ (21,764)  | \$ 6,405     |
| Acquisition of capital assets through change in contract retainage | \$ 452,888   | \$ (40,005)  |
| Acquisition of capital assets through change in vouchers payable   | \$ 54,903    | \$ 1,413,374 |
| Capitalized interest                                               | \$ 1,433,603 | \$ 1,160,204 |

See Notes to Financial Statements



Notes to Financial Statements

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Note 1. Summary of Significant Accounting Policies

The Water Utility Fund (the "Fund") was established at the direction of Norfolk City Council as an enterprise fund on July 1, 1979. The Fund accounts for the provision of water services to City of Norfolk (the "City") residents, municipal customers and others outside the City. Activities necessary to provide water services, including operations, maintenance, financing and related debt service, and billing and collection, are accounted for in the Fund. Although separate financial statements have been presented for the Fund, it is also included in the City of Norfolk's Comprehensive Annual Financial Report as a major Enterprise Fund.

A summary of the Fund's significant accounting policies is as follows:

Basis of accounting: The financial statements are presented on the accrual-basis of accounting, wherein revenues are recognized in the accounting period in which they are earned and expenses are recognized in the accounting period in which the related liabilities are incurred. The Fund adopted Statement No. 20 of the Governmental Accounting Standards Board, Accounting and Financial Reporting for Proprietary Funds and Other Governmental Entities That Use Proprietary Fund Accounting. Accordingly, the Fund has elected not to apply Statements and Interpretations issued by the Financial Accounting Standards Board after November 30, 1989.

Deposits and Investments: The Fund's cash and short-term investments include cash on hand, demand deposits, and short-term investments with original maturities of one year or less from the date of acquisition.

Investments of the Fund are stated at fair value. Short-term investments are recorded at cost, which approximates fair value. The fair value of the State Treasurer's Local Government Investment Pool (LGIP) is the same as the value of the pool shares. The LGIP is not registered with the Securities and Exchange Commission (SEC) as an investment company, but maintains a policy to operate in a manner consistent with the SEC's Rule 2a7 of the Investment Company Act of 1940. The external investment pool is administered by the Treasury Board of Virginia. Other investments are stated at their fair value. Securities traded on a national securities exchange are valued at the last reported sales price on the last business day of the fiscal year. Investments that do not have an established market are reported at estimated fair value, primarily net asset value determined based on the fair value of the underlying securities. These investments are reported in the accompanying financial statements as cash and short-term investments, unless the original investment period exceeded one year, in which case they are reported as investments.

Accounts receivable: Accounts receivable are receivables due at the end of the fiscal year which have not been collected by year-end, net of allowance for doubtful accounts. The Fund determines past due status of individual water account receivables based on contractual terms and generally does not charge interest on past-due amounts. The Fund estimates its allowance for doubtful accounts based on a combination of factors, including the Fund's historical loss experience and any anticipated effects related to current economic conditions, as well as management's knowledge of the current composition of water receivables. Accounts that management believes to be ultimately not collectible are written off upon such determination. Unbilled accounts, net, are estimated at each fiscal year-end based on water usage by customers for whom billings have not yet been processed.

Inventories: Inventories are stated at the lower of cost (using the moving average method) or market.

## Notes to Financial Statements

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Restricted assets: Certain unspent proceeds of the revenue bonds as well as certain resources set aside for their repayment are classified as restricted assets on the Statement of Net Assets because they are maintained in separate bank accounts and their use is limited by applicable bond covenants.

Capital assets: Capital assets are recorded at cost, less accumulated depreciation. Assets acquired prior to July 1977, for which historical cost records were not available, were appraised and valued at estimated historical cost by means of accepted price indexing methodology.

Depreciation: Depreciation is computed using the straight-line method over the following estimated useful lives:

|                                       | <u>Years</u> |
|---------------------------------------|--------------|
| Buildings and improvements            | 35 - 100     |
| Transmission and distribution mains   | 40 - 100     |
| Service meters and meter installation | 35 - 50      |
| Pumping and other water equipment     | 10 - 60      |
| Furniture, fixtures and equipment     | 5 - 25       |
| Intangible Assets                     | 5 - 10       |

When an asset is retired or otherwise disposed of, the related cost and accumulated depreciation are eliminated from the accounts and any resulting gain or loss is reflected as nonoperating revenue or expense.

Interest costs incurred on funds borrowed for construction projects are capitalized, net of interest earned on the temporary investment of the unexpended portion of those funds.

The Fund evaluates prominent events or changes in circumstances affecting capital assets to determine whether impairment of a capital asset has occurred. A capital asset is generally considered impaired if both (a) the decline in service utility of the capital asset is large in magnitude and (b) the event or change in circumstance is outside the normal life cycle of the capital asset. Impaired capital assets that will no longer be used by the Fund are reported at the lower of carrying value or fair value. Impairment losses on capital assets that will continue to be used by the Fund are measured using the method that best reflects the diminished service utility of the capital asset. Any insurance recoveries received as a result of impairment events or changes in circumstances resulting in the impairment of a capital asset are netted against the impairment loss.

Compensated absences: It is the Fund's policy to permit employees to accumulate earned but unused vacation and sick pay benefits. Vacation leave is fully vested when earned by Fund employees. Sick leave does not vest for Fund employees; however, upon retirement, Fund employees receive credit for each day of accumulated sick leave toward their pension benefit. There is no liability for unpaid accrued sick leave service since the Fund does not pay when the employee separates from service.

Net assets: Net assets in the financial statements are classified as invested in capital assets, net of related debt; restricted; and unrestricted. Restricted net assets represent constraints on resources that are either externally imposed by creditors, grants, contributions, laws and regulations of other governments or imposed by law through state statute.

Operating and nonoperating revenues: The Fund reports as operating revenues all charges for services generated through service fees and certain other miscellaneous revenues. Other revenues, including interest revenue and

Water Utility Fund of the City of Norfolk, Virginia  
June 30, 2012

Notes to Financial Statements

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grants, are reported as nonoperating. When both restricted and unrestricted resources are available for use, the policy is to use restricted resources first and then unrestricted resources as they are needed.

General allocations: The General Fund of the City provides administrative services to the Fund, which totaled \$2,379,427 and \$2,789,935 for the fiscal years ended June 30, 2012 and 2011, respectively. Charges for these services are treated as expenses by the Fund. In addition the Fund recorded, as other expenses, payments to the General Fund in lieu of taxes of \$2,710,608 for the fiscal years ended June 30, 2012 and 2011.

Bond discount/premium: Discount and premium on bonds are amortized, using the effective-interest method, over the life of the debt and is included in interest expense.

Deferred gain (loss) on advance refunding: Gain (loss) on advance refunding is amortized, using the effective-interest method, over the shorter of the life of the refunded bonds or the life of the new bonds.

Estimates: The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Note 2. Cash and Investments

At June 30, 2012 and 2011, the Fund's cash and investments consist of the following:

|                                                          | 2012                 | 2011                 |
|----------------------------------------------------------|----------------------|----------------------|
| Investment in LGIP                                       | \$ 11,000,100        | \$ 11,000,010        |
| Other investments                                        | 26,044,103           | 62,972,235           |
| Cash                                                     | 33,803,658           | 24,120,749           |
|                                                          | <u>\$ 70,847,861</u> | <u>\$ 98,092,994</u> |
| Cash and short term investments                          | \$ 33,477,706        | \$ 23,874,446        |
| Restricted cash held in escrow                           | 325,953              | 246,313              |
| Restricted short term investments held with fiscal agent | 5,655,167            | 10,369,965           |
| Unrestricted short term investments                      | 11,785,201           | 13,263,144           |
| Reserve funds                                            | 17,522,624           | 17,504,604           |
| Investment restricted for construction                   | 2,081,210            | 32,834,522           |
|                                                          | <u>\$ 70,847,861</u> | <u>\$ 98,092,994</u> |

Deposits: All cash of the Fund is maintained in accounts collateralized in accordance with the Virginia Security for Public Deposits Act, Section 2.2-4400 et. seq. of the Code of Virginia or covered by federal depository insurance.

Investments: Statutes authorize the Fund to invest in obligations of the United States or agencies thereof, obligations of the Commonwealth of Virginia or political subdivisions thereof, obligations of the International Bank for Reconstruction and Development ("World Bank") and Asian Development Bank, the African Development Bank, commercial paper rated A-1 by

Water Utility Fund of the City of Norfolk, Virginia  
June 30, 2012

Notes to Financial Statements

Standard and Poor's or P-1 by Moody's Commercial Paper Record, banker's acceptances, repurchase agreements, and the State Treasurer's Local Government Investment Pool ("LGIP"), certain mutual funds, corporate notes, asset-backed securities, and savings accounts or time deposits.

The Fund has no formal policy regarding credit risk, interest rate risk, concentration of credit risk, custodial credit risk, or foreign investment risk.

At June 30, 2012 and 2011, the Fund had \$11,000,100 and \$11,000,010 deposited, respectively, in the LGIP which carries a Standard and Poor's rating of AAAm and is included in cash and short-term investments and reserve funds.

The Fund's investments for the years ended June 30, 2012 and 2011, other than in LGIP, are categorized below to give an indication of the level of interest rate risk for each investment type by the entity at year-end.

| Investment Type                | Fiscal Year 2012 |            | Fiscal Year 2011 |            |
|--------------------------------|------------------|------------|------------------|------------|
|                                | Fair Value       |            | Fair Value       |            |
|                                | Less than 1 year |            | Less than 1 year |            |
| SNAP Money Market Mutual Funds | \$               | 13,866,411 | \$               | 46,097,666 |
| US Agency Notes                |                  | 6,522,525  |                  | 6,504,604  |
| PFM Funds Government Series    |                  | 5,655,167  |                  | 10,369,965 |
|                                | \$               | 26,044,103 | \$               | 62,972,235 |

The Fund's rated debt investments, other than in LGIP, as of June 30, 2012 and 2011 were rated by Standard and Poor's and the ratings are presented below using the Standard and Poor's rating scale.

| Investment Type                | Fiscal Year 2012 |               |               |
|--------------------------------|------------------|---------------|---------------|
|                                | AA+              | AAAm          | Total         |
| Money Market Mutual Fund       |                  |               |               |
| SNAP Money Market Mutual Funds | \$ -             | \$ 13,866,411 | \$ 13,866,411 |
| PFM Funds Government Series    | -                | 5,655,167     | 5,655,167     |
| US Agency Notes                | 6,522,525        | -             | 6,522,525     |
|                                | \$ 6,522,525     | \$ 19,521,578 | \$ 26,044,103 |

| Investment Type                | Fiscal Year 2011 |               |               |
|--------------------------------|------------------|---------------|---------------|
|                                | AAA              | AAAm          | Total         |
| Money Market Mutual Fund       |                  |               |               |
| SNAP Money Market Mutual Funds | \$ -             | \$ 46,097,666 | \$ 46,097,666 |
| PFM Funds Government Series    | -                | 10,369,965    | 10,369,965    |
| US Agency Notes                | 6,504,604        | -             | 6,504,604     |
|                                | \$ 6,504,604     | \$ 56,467,631 | \$ 62,972,235 |

The Fund has combined amounts restricted for capital projects and amounts for which the nature of the transaction generated a related liability with amounts available for general operating use in the financial statements for the Fund. These amounts are not available to meet obligations arising from the operating activities of the Fund.

Water Utility Fund of the City of Norfolk, Virginia  
June 30, 2012

Notes to Financial Statements

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A summary of the liabilities payable from restricted assets at June 30, 2012 and 2011 is as follows:

|                                       | 2012                | 2011                |
|---------------------------------------|---------------------|---------------------|
| Accrued revenue bond interest payable | <u>\$ 2,498,910</u> | <u>\$ 2,839,254</u> |

Certain cash and investments of the Fund are combined with other City monies for investment purposes. These amounts were covered by federal depository insurance or collateralized in accordance with the Virginia Security for Public Deposits Act. Reference should be made to the Comprehensive Annual Financial Report of the City for further cash and investment disclosures.

Note 3. Accounts Receivable

Accounts receivable at June 30, 2012 and 2011 is comprised of the following:

|                                           | 2012                | 2011                |
|-------------------------------------------|---------------------|---------------------|
| Governmental                              | \$ 657,166          | \$ 766,085          |
| Residential                               | 2,801,978           | 2,907,543           |
| Refuse disposal fees                      | 3,235,566           | 3,297,228           |
| Commercial                                | 1,134,756           | 1,052,717           |
| Utility taxes                             | 731,926             | 705,442             |
| Industrial                                | 297,809             | 156,523             |
| Other                                     | 1,101,073           | 986,368             |
|                                           | <u>9,960,274</u>    | <u>9,871,906</u>    |
| Less allowance for uncollectible accounts | <u>(2,959,418)</u>  | <u>(3,219,603)</u>  |
|                                           | <u>\$ 7,000,856</u> | <u>\$ 6,652,303</u> |

Utility taxes and refuse disposal fees receivable are remitted to the City's General Fund when collected.

Note 4. Unbilled Accounts Receivable

At June 30, 2012 and 2011, the Fund recognized \$4,717,107 and \$7,707,220 as unbilled accounts receivable, respectively. These amounts were billed in July 2012 and July 2011, respectively.

Water Utility Fund of the City of Norfolk, Virginia  
June 30, 2012

Notes to Financial Statements

Note 5. Capital Assets

Capital assets at June 30, 2012 and 2011 are comprised of the following:

|                                      | Balance<br>June 30, 2011 | Additions     | Retirements /<br>Transfers | Balance<br>June 30, 2012 |
|--------------------------------------|--------------------------|---------------|----------------------------|--------------------------|
| Nondepreciable assets:               |                          |               |                            |                          |
| Land                                 | \$ 10,608,996            | \$ 1,162,215  | \$ -                       | \$ 11,771,211            |
| Intangible assets                    | 2,304,237                | 26,445        | -                          | 2,330,682                |
| Construction in progress             | 22,157,368               | 32,912,749    | (15,693,681)               | 39,376,436               |
| Total nondepreciable assets          | 35,070,601               | 34,101,409    | (15,693,681)               | 53,478,329               |
| Depreciable & amortized assets:      |                          |               |                            |                          |
| Land improvements                    | 19,876,613               | -             | -                          | 19,876,613               |
| Buildings                            | 178,517,268              | -             | (26,854)                   | 178,490,414              |
| Equipment                            | 377,215,439              | 15,337,510    | (367,365)                  | 392,185,584              |
| Intangible assets                    | 5,275,204                | 536,190       | -                          | 5,811,394                |
| Total depreciable & amortized assets | 580,884,524              | 15,873,700    | (394,219)                  | 596,364,005              |
| Less accumulated depreciation for    |                          |               |                            |                          |
| Land improvements                    | (3,333,556)              | (388,170)     | -                          | (3,721,726)              |
| Buildings                            | (41,904,223)             | (2,952,020)   | 11,816                     | (44,844,427)             |
| Equipment                            | (119,156,397)            | (7,907,669)   | 365,905                    | (126,698,161)            |
| Intangible assets                    | (2,828,240)              | (654,286)     | -                          | (3,482,526)              |
| Total accumulated depreciation       | (167,222,416)            | (11,902,145)  | 377,721                    | (178,746,840)            |
| Depreciable assets, net              | 413,662,108              | 3,971,555     | (16,498)                   | 417,617,165              |
| Total capital assets, net            | \$ 448,732,709           | \$ 38,072,964 | \$ (15,710,179)            | \$ 471,095,494           |

|                                      | June 30, 2010  | Additions     | Retirements /<br>Transfers | Balance<br>June 30, 2011 |
|--------------------------------------|----------------|---------------|----------------------------|--------------------------|
| Nondepreciable assets:               |                |               |                            |                          |
| Land                                 | \$ 10,239,496  | \$ 369,500    | \$ -                       | \$ 10,608,996            |
| Intangible assets                    | 2,304,237      | -             | -                          | 2,304,237                |
| Construction in progress             | 24,087,110     | 16,702,058    | (18,631,800)               | 22,157,368               |
| Total nondepreciable assets          | 36,630,843     | 17,071,558    | (18,631,800)               | 35,070,601               |
| Depreciable assets:                  |                |               |                            |                          |
| Land improvements                    | 7,040,090      | 12,836,523    | -                          | 19,876,613               |
| Buildings                            | 178,822,669    | -             | (305,401)                  | 178,517,268              |
| Equipment                            | 370,504,783    | 6,997,092     | (286,436)                  | 377,215,439              |
| Intangible assets                    | 5,270,170      | 5,034         | -                          | 5,275,204                |
| Total depreciable & amortized assets | 561,637,712    | 19,838,649    | (591,837)                  | 580,884,524              |
| Less accumulated depreciation for    |                |               |                            |                          |
| Land improvements                    | (3,097,046)    | (236,510)     | -                          | (3,333,556)              |
| Buildings                            | (39,106,479)   | (2,944,725)   | 146,981                    | (41,904,223)             |
| Equipment                            | (111,619,316)  | (7,803,002)   | 265,921                    | (119,156,397)            |
| Intangible assets                    | (1,897,418)    | (930,822)     | -                          | (2,828,240)              |
| Total accumulated depreciation       | (155,720,259)  | (11,915,059)  | 412,902                    | (167,222,416)            |
| Depreciable assets, net              | 405,917,453    | 7,923,590     | (178,935)                  | 413,662,108              |
| Total capital assets, net            | \$ 442,548,296 | \$ 24,995,148 | \$ (18,810,735)            | \$ 448,732,709           |

Water Utility Fund of the City of Norfolk, Virginia  
June 30, 2012

Notes to Financial Statements

The Fund capitalized \$1,569,114 of interest expense and \$135,511 of interest income for the fiscal year ended June 30, 2012. For the fiscal year ended June 30, 2011 the Fund capitalized \$1,290,620 of interest expense and \$130,416 of interest income. The total interest cost was \$16,740,161 and \$17,448,543 for the fiscal year ended June 30, 2012 and 2011, respectively.

Note 6. Long-Term Obligations

General obligation bonds: A summary of general obligation bond transactions for the fiscal year ended June 30, 2012 and 2011 follows:

|                                                                                               | 2012                | 2011                |
|-----------------------------------------------------------------------------------------------|---------------------|---------------------|
| General obligation bonds outstanding at July 1                                                | \$ 3,896,689        | \$ 6,719,682        |
| Bonds retired/refunded                                                                        | (2,058,267)         | (2,882,993)         |
| Bonds outstanding at June 30                                                                  | 1,838,422           | 3,896,689           |
| Unamortized discount/premium, net                                                             | (29,405)            | (79,305)            |
| General obligation bonds outstanding at June 30,<br>adjusted for unamortized discount/premium | 1,809,017           | 3,817,384           |
| Less current portion                                                                          | (739,589)           | (2,058,267)         |
|                                                                                               | <u>\$ 1,069,428</u> | <u>\$ 1,759,117</u> |

Water utility general obligation bonds outstanding are comprised of the following individual issues:

| Bond Issue/Purpose                           | Dated     | Issue Amount | Interest Rate | 2012                | 2011                |
|----------------------------------------------|-----------|--------------|---------------|---------------------|---------------------|
| Series 2002 Refunding                        | 2/13/2002 | 47,200,000   | 2.00 - 5.00%  | \$ -                | \$ 730,014          |
| Series 2002B Refunding                       | 11/1/2002 | 39,890,000   | 5.00 - 5.25%  | 739,589             | 773,372             |
| Series 2009 Refunding                        | 5/21/2009 | 21,895,000   | 3.00 - 5.00%  | 1,098,833           | 2,393,303           |
| Total Water Utility General Obligation Bonds |           |              |               | <u>\$ 1,838,422</u> | <u>\$ 3,896,689</u> |

A summary of the requirements to amortize general obligation bonds outstanding at June 30, 2012 is as follows:

| Year Ending<br>June 30, | Principal           | Interest          |
|-------------------------|---------------------|-------------------|
| 2013                    | \$ 739,589          | \$ 82,154         |
| 2014                    | 551,047             | 41,165            |
| 2015                    | 547,786             | 13,695            |
|                         | <u>\$ 1,838,422</u> | <u>\$ 137,014</u> |

General obligation bonds are payable first from the revenue of the specific funds in which they are recorded; however, the full faith and credit of the City is pledged to the payment of the principal and interest on general obligation bonds.

Water Utility Fund of the City of Norfolk, Virginia  
June 30, 2012

Notes to Financial Statements

Revenue bonds: A summary of revenue bond transactions for the fiscal year ended June 30, 2012 and 2011 follows:

|                                                                                    | 2012                  | 2011                  |
|------------------------------------------------------------------------------------|-----------------------|-----------------------|
| Revenue bonds outstanding at July 1                                                | \$ 340,895,000        | \$ 303,355,000        |
| Bonds retired                                                                      | (221,445,000)         | (9,875,000)           |
| Bonds issued                                                                       | 176,925,000           | 47,415,000            |
| Bonds outstanding at June 30                                                       | 296,375,000           | 340,895,000           |
| Unamortized discount/premium, net                                                  | 30,042,625            | (365,453)             |
| Revenue bonds outstanding at June 30,<br>adjusted for unamortized discount/premium | 326,417,625           | 340,529,547           |
| Less current portion                                                               | (7,000,000)           | (11,285,000)          |
|                                                                                    | <u>\$ 319,417,625</u> | <u>\$ 329,244,547</u> |

Water utility revenue bonds outstanding are comprised of the following individual issues:

| Bond Issue/Purpose                      | Dated      | Issue Amount  | Interest Rate | 2012                  | 2011                  |
|-----------------------------------------|------------|---------------|---------------|-----------------------|-----------------------|
| Series 1993 Water Revenue               | 11/1/1993  | \$ 68,430,000 | 2.80 - 5.375% | \$ -                  | \$ 42,375,000         |
| Series 1995 Water Revenue               | 8/15/1995  | 115,680,000   | 4.75 - 7.00%  | -                     | 81,135,000            |
| Series 1998 Water Revenue and Refunding | 11/1/1998  | 84,605,000    | 4.00 - 5.125% | -                     | 63,950,000            |
| Series 2001 Water Revenue and Refunding | 10/15/2001 | 35,000,000    | 4.00 - 5.00%  | -                     | 28,865,000            |
| Series 2005 Water Revenue and Refunding | 3/23/2005  | 22,810,000    | 3.50 - 5.00%  | 17,505,000            | 20,695,000            |
| Series 2008 Water Revenue               | 4/23/2008  | 58,415,000    | 3.00 - 5.00%  | 55,440,000            | 56,460,000            |
| Series 2010 Water Revenue               | 9/23/2010  | 47,415,000    | 2.00 - 4.50%  | 46,505,000            | 47,415,000            |
| Series 2012 Water Revenue Refunding     | 4/4/2012   | 176,925,000   | 2.00 - 5.0%   | 176,925,000           | -                     |
| Total Water Utility Revenue Bonds       |            |               |               | <u>\$ 296,375,000</u> | <u>\$ 340,895,000</u> |

A summary of the requirements to amortize water revenue bonds outstanding at June 30, 2012 is as follows:



Water Utility Fund of the City of Norfolk, Virginia  
June 30, 2012

Notes to Financial Statements

| Year Ending<br>June 30, | Principal             | Interest              |
|-------------------------|-----------------------|-----------------------|
| 2013                    | \$ 7,000,000          | \$ 14,276,059         |
| 2014                    | 7,250,000             | 13,476,719            |
| 2015                    | 7,805,000             | 13,244,769            |
| 2016                    | 8,750,000             | 12,894,294            |
| 2017                    | 10,655,000            | 12,438,018            |
| 2018-2022               | 78,845,000            | 51,726,069            |
| 2023-2027               | 84,255,000            | 30,331,387            |
| 2028-2032               | 44,495,000            | 15,155,841            |
| 2033-2037               | 30,305,000            | 7,108,875             |
| 2038-2041               | 17,015,000            | 1,134,831             |
|                         | <u>\$ 296,375,000</u> | <u>\$ 171,786,862</u> |

Water revenue bonds are payable solely from the revenue of the Fund. The most restrictive covenant of the water revenue bonds requires that the Fund's net revenue to be not less than the greater of (i) the sum of 1.1 times senior debt service and 1.0 times subordinated debt service for the fiscal year or (ii) 1.0 times the funding requirements for transfers from the Revenue Fund to the Operating Fund, the Bond Fund, the Parity Debt Service Fund, the Debt Service Revenue Fund, the Subordinated Debt Service Fund and the Repair and Replacement Reserve Fund. Pursuant to the terms of the revenue bond indenture, certain resources have been set aside for the repayment of the revenue bonds. These resources are classified as restricted cash held with fiscal agent on the balance sheet because their use is limited by applicable bond covenants.

Current and Advanced Refunding: On April 4, 2012, the City sold \$176,925,000 of water revenue refunding bonds. The Series 2012 Bonds were used to defease \$40,055,000 of the City's Series 1993 Water Revenue Bonds, \$77,650,000 of the City's Series 1995 Water Revenue Bonds, \$61,700,000 of the Series 1998 Water Revenue Bonds, \$28,035,000 of the City's Series 2001 Water Revenue Bonds and \$2,720,000 of the City's Series 2005 Water Revenue Bonds. The refunding will reduce the City's total debt service payments for bonds and result in an economic gain (difference between the present values of the debt service payments on the old and new debt) of \$39,272,782. Based on the City's long-standing wholesale contract with Virginia Beach, a portion of the refunding savings will be shared in accordance with the applicable contract terms.

Bonds authorized and unissued as of June 30, 2012 and 2011 were \$75,520,626 and \$51,720,626, respectively.

Note 7. Retirement Obligations

The Fund contributes to the Employees' Retirement System of the City of Norfolk (the "System"), a single-employer noncontributory defined benefit plan, which is accounted for as a separate Pension Trust Fund. The System provides retirement benefits as well as death and disability benefits. All benefits vest after 5 years of creditable service. Cost-of-living adjustments ("COLAs") are provided at the discretion of the City Council. The System and its benefits are established by Section 37 of the Code of the City of Norfolk, Virginia as amended. All employees hired on or after October 5, 2010 contribute 5% of compensation to the benefit plan with the exception of Norfolk Community Services Board employees at June 30, 2012 who will become City employees on July 1, 2012. Reference should be made to the Comprehensive Annual

Notes to Financial Statements

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Financial Report of the System for a further description of the plan. Retirement expense was \$2,629,548 and \$2,770,254 for the years ended June 30, 2012 and 2011, respectively.

Note 8. Significant Customers

Billed and unbilled accounts receivable includes \$2,140,403 and \$5,516,678 due from the City of Virginia Beach and \$614,748 and \$771,725 due from the United States Navy for water sales at June 30, 2012 and 2011, respectively. Net charges for services include \$25,519,014 and \$28,702,893 for water sales to the City of Virginia Beach and \$8,534,182 and \$8,836,936 for the United States Navy for the fiscal years ended June 30, 2012 and 2011.

Note 9. Commitments and Contingencies

Commitments for completion of capital projects authorized at June 30, 2012 and 2011 were approximately \$16,617,410 and \$23,275,000, respectively.

Amounts received under a certain contract are subject to audit and adjustment by third-party experts and the contracting party. Differences identified, including amounts already collected, may constitute a liability of the Fund. The difference, if any, between revenue earned and recorded cannot be determined at this time.

Note 10. Litigation

From time-to-time the Fund is a defendant in a number of lawsuits. Although it is not possible to determine the final outcome of these matters, management and the City Attorney are of the opinion that the ultimate liability will not be material and will not have a significant effect on the Fund's financial condition.

Note 11. Risk Management

The Fund is exposed to various risks of loss related to: theft of, damage to, and destruction of assets; injuries to employees; general liability; automobile liability; crime and employee dishonesty; professional liability; and directors and officers' liability. The Fund's coverage is provided through the City's combination of purchased insurance policies and self-insurance plans.

Note 12. Other Postemployment Benefits (OPEB)

The City's annual OPEB cost (expense) is calculated based on the annual required contribution (ARC), an amount actuarially determined in accordance with GAAP wherein governments report on an accrual basis, benefit costs related to the period in which benefits are earned rather than to the period of benefit distribution. The ARC represents a level of funding that, if paid on an on-going basis, is projected to cover normal cost each year and amortize any unfunded actuarial liabilities over a period not to exceed thirty years. The ARC as computed for the City is allocated to the Fund based on payroll.

The Fund and the City use the pay as you go method to calculate the OPEB liability for June 30, 2012 as the City has not funded a trust for the OPEB liability. Using the most recent OPEB plan valuation date of July 1, 2011, the following table shows the components of the Fund's annual OPEB costs projected for the current fiscal year, the amount contributed to the Plan and the changes in the net OPEB obligation:

Water Utility Fund of the City of Norfolk, Virginia  
June 30, 2012

Notes to Financial Statements

|                                 | 2012         | 2011         |
|---------------------------------|--------------|--------------|
| Net beginning OPEB obligation   | \$ 1,199,565 | \$ 830,437   |
| Annual required contributions   | 495,054      | 488,671      |
| Interest on net OPEB obligation | 51,047       | 38,315       |
| Adjustment to ARC               | (47,402)     | (35,579)     |
| Annual OPEB cost                | 498,699      | 491,407      |
| Less: contributions made        | 171,246      | 122,279      |
| Increase in net OPEB obligation | 327,453      | 369,128      |
| Net ending OPEB obligation      | \$ 1,527,018 | \$ 1,199,565 |

The total unfunded actuarial accrued liability (UAAL) for 2012 and 2011 is \$3,616,202 and \$3,702,557, respectively, and is allocated to the Fund on the same basis as the ARC. The allocation is based on covered payroll and does not purport to represent the OPEB liability of the Fund on a stand-alone basis. Reference should be made to the Comprehensive Annual Financial Report of the City of Norfolk for further information.

Note 13. Accounting Pronouncements Issued But Not Yet Implemented

The GASB has issued several pronouncements that may impact future financial presentations. Management has not determined what, if any, impact implementation of the following statements will have on the Fund.

- GASB Statement 60: Accounting and Reporting for Service Concession Arrangements. GASB 60 addresses issues related to accounting for, financial reporting and disclosure requirements of certain service concession arrangements, which are a type of public-private partnership. The provisions of GASB 60 are effective for fiscal years beginning after December 15, 2011.
- GASB Statement 61: The Financial Reporting Entity: Omnibus – an amendment of GASB Statements No. 14 and No. 34. The objectives of GASB 61 are to improve financial reporting for governmental entities. The statement modifies certain requirements for inclusion of component units, by clarifying the manner in which the determination should be made and the type of relationships that should be considered when making that determination. The statement also amends the criteria for reporting blended component units. The provisions of GASB 61 are effective for fiscal years beginning after June 15, 2012.
- GASB Statement 62: Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements. GASB 62 incorporates into GASB's authoritative literature certain accounting and financial reporting guidance issued on or before November 30, 1989 from the following sources: FASB statements and interpretations, Accounting Principles Board Opinions, and Accounting Research Bulletins of the AICPA, so long as it does not contradict or conflict with GASB pronouncements. This statement also supersedes Statement No. 20: Accounting and Financial Reporting for Proprietary Funds and Other Governmental Entities that Use Proprietary Fund Accounting. The provisions of GASB 62 are effective for fiscal years beginning after December 15, 2011.
- GASB Statement 63: Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources and Net Position. GASB 63 provides financial reporting guidance for deferred outflows and inflows of resources. These terms are

Notes to Financial Statements

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defined as the consumption or acquisition of net assets by the government that is applicable to a future reporting period respectively. The provisions of GASB 62 are effective for fiscal years beginning after December 15, 2011.

- GASB Statement No. 65: Items Previously Reported as Assets and Liabilities. The objective of this Statement is to clarify GASB's conceptual definitions of deferred outflows of resources and deferred inflows of resources elements to a broader range of items to enhance consistency in state and local government financial statements. The statement reclassifies or recognizes certain items currently reported as assets and liabilities as one of four financial statement elements — deferred outflows of resources, outflows of resources, deferred inflows of resources or inflows of resources. Before this guidance, many items that appeared to meet the definition of deferred outflows of resources and deferred inflows of resources in Concepts Statement No. 4, Elements of Financial Statements, were not specifically identified as such in the GASB's authoritative literature, because the Concepts Statement limits recognition of deferred outflows and deferred inflows to those instances identified in authoritative GASB pronouncement. The provisions of this Statement are effective for financial statements for periods beginning after December 15, 2012. Earlier application is encouraged.
- GASB Statement 66: Technical Corrections—2012—an amendment of GASB Statements No. 10 and No. 62. The objective of this Statement is to improve accounting and financial reporting for a governmental financial reporting entity by resolving conflicting guidance that resulted from the issuance of two pronouncements, Statements No. 54, Fund Balance Reporting and Governmental Fund Type Definitions, and No. 62, Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements. This Statement also amends Statement No. 10, Accounting and Financial Reporting for Risk Financing and Related Insurance Issues, by removing the provision that limits fund-based reporting of an entity's risk financing activities to the general fund and the internal service fund type. As a result, governments should base their decisions about fund type classification on the nature of the activity to be reported, as required in Statement 54 and Statement No. 34, Basic Financial Statements—and Management's Discussion and Analysis—for State and Local Governments. The provisions of this Statement are effective for financial statements for periods beginning after December 15, 2012. Earlier application is encouraged.
- GASB Statement 67: Financial Reporting for Pension Plans—an amendment of GASB Statement No.25 and No.50. This Statement replaces the requirements of Statement No. 25, Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans, and Statement 50 for pension plans that are administered through trusts or similar arrangements meeting certain criteria. The objective of this Statement is to improve financial reporting by state and local governmental pension plans. Statement 67 enhances note disclosures and required supplementary information for both defined benefit and defined contribution pension plans. It also requires the presentation of new information about annual money-weighted rates of return in the notes to the financial statements and in 10-year required supplementary information. The provisions of Statement 67 are effective for financial statements for fiscal years beginning after June 15, 2013. Earlier application is encouraged.
- GASB Statement 68: Accounting and Financial Reporting for Pensions—an amendment of GASB Statement No.27. This Statement replaces the requirements of Statement No. 27, Accounting for Pensions by State and Local Governmental Employers, as well as the requirements of Statement No. 50, Pension Disclosures, as they relate to pensions that are provided through pension plans administered as trusts or equivalent arrangements (hereafter jointly referred to as trusts) that meet certain criteria. The objective of GASB 68 is to improve accounting and financial reporting by state and local governments for pensions. Governments providing defined benefit pensions will be required to recognize their long-term obligation for pension benefits as a liability and to recognize more pension expense immediately. The Statement also requires revised and new disclosures, and required supplementary information. It also requires cost-sharing employers to record a liability and expense equal to their proportionate share of the collective net pension liability and expense for the

Water Utility Fund of the City of Norfolk, Virginia  
June 30, 2012

Notes to Financial Statements

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cost-sharing plan. The provisions of Statement 68 are effective for fiscal years beginning after June 15, 2014; however, earlier application is encouraged.

Water Utility Fund of the City of Norfolk, Virginia  
June 30, 2012

Supplementary Schedule

Debt Capacity Information - Revenue Bonds Debt Service Coverage  
Last Ten Fiscal Years

| Fiscal<br>Year | Operating Expenses |                     |                  |              |               |               |          |  |
|----------------|--------------------|---------------------|------------------|--------------|---------------|---------------|----------|--|
|                | Revenue            | Less Depreciation / | Income           |              |               |               |          |  |
|                | Available for      | Amortization        | Available        | Debt Service |               |               |          |  |
|                | Debt Service (1)   | and PILOT (2)       | for Debt Service | Principal    | Interest      | Total         | Coverage |  |
| 2003           | \$ 67,760,029      | \$ 27,967,179       | \$ 39,792,850    | \$ 5,700,000 | \$ 14,600,283 | \$ 20,300,283 | 1.96     |  |
| 2004           | 64,366,942         | 33,740,297          | 30,626,645       | 5,955,000    | 14,336,043    | 20,291,043    | 1.51     |  |
| 2005           | 69,183,154         | 34,643,668          | 34,539,486       | 6,250,000    | 14,041,059    | 20,291,059    | 1.70     |  |
| 2006           | 78,788,158         | 34,144,763          | 44,643,395       | 6,580,000    | 14,827,960    | 21,407,960    | 2.09     |  |
| 2007           | 76,013,563         | 32,427,377          | 43,586,186       | 7,310,000    | 14,379,821    | 21,689,821    | 2.01     |  |
| 2008           | 78,730,024         | 37,026,528          | 41,703,496       | 7,665,000    | 14,022,200    | 21,687,200    | 1.92     |  |
| 2009           | 78,020,552         | 38,182,373          | 39,838,179       | 8,050,000    | 16,411,343    | 24,461,343    | 1.63     |  |
| 2010           | 82,470,020         | 34,567,741          | 47,902,279       | 9,420,000    | 15,929,680    | 25,349,680    | 1.89     |  |
| 2011           | 83,737,444         | 37,068,753          | 46,668,691       | 9,875,000    | 16,527,844    | 26,402,844    | 1.77     |  |
| 2012           | 81,295,219         | 34,667,524          | 46,627,695       | 11,285,000   | 11,184,363    | 22,469,363    | 2.08     |  |

1. Includes operating revenue plus interest income, net of interest capitalized.

2. Includes operating expenses less depreciation / amortization and payment in lieu of taxes (PILOT).

Supplementary Schedule

**Supplemental Other Post Employment Benefit (OPEB) Information**  
**Schedule of Funding Progress**  
**Water Utility Fund**  
**Last Three Fiscal Years**  
**(Unaudited)**

| Actuarial<br>valuation<br>date | Actuarial<br>value of<br>assets<br>(a) | Actuarial<br>accrued<br>Liability (AAL)<br>(b) | Unfunded<br>AAL (UAAL)<br>(b-a) | Funded<br>Ratio<br>(a/b) | Estimated<br>covered<br>payroll<br>(c) | UAA as a<br>percentage<br>of covered<br>payroll<br>(b-a)/c |
|--------------------------------|----------------------------------------|------------------------------------------------|---------------------------------|--------------------------|----------------------------------------|------------------------------------------------------------|
| July 1, 2011                   | \$ -                                   | \$ 3,610,202                                   | \$ 3,610,202                    | 0%                       | \$ 10,566,480                          | 34.2%                                                      |
| July 1, 2010                   | -                                      | 3,702,557                                      | 3,702,557                       | 0%                       | 10,822,491                             | 34.2%                                                      |
| July 1, 2009                   | -                                      | 3,545,026                                      | 3,545,026                       | 0%                       | 10,174,204                             | 34.8%                                                      |

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**PROPOSED FORM OF OPINION OF BOND COUNSEL**

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*Set forth below is the proposed form of the opinion of McGuireWoods LLP, Bond Counsel, regarding the 2013 Bonds. It is preliminary and subject to change prior to the delivery of the 2013 Bonds.*

[Letterhead of McGuireWoods LLP]

February 20, 2013

City Council of the  
City of Norfolk, Virginia  
Norfolk, Virginia

**\$43,070,000**  
**City of Norfolk, Virginia**  
**Water Revenue Bonds,**  
**Series 2013**

Ladies and Gentlemen:

We have served as Bond Counsel in connection with the issuance and sale by the City of Norfolk, Virginia (the "City"), of its \$43,070,000 Water Revenue Bonds, Series 2013 (the "2013 Bonds"), dated the date hereof. The City Council of the City authorized the issuance of the 2013 Bonds by Ordinance No. 44,927 adopted on December 11, 2012. The City issued the 2013 Bonds under the terms and conditions of a Master Indenture of Trust dated as of November 1, 1993, as previously supplemented and amended (the "Master Indenture"), between U.S. Bank National Association, as successor trustee to SunTrust Bank and Crestar Bank by merger (the "Trustee"), and the City, and as further supplemented by a Tenth Supplemental Indenture of Trust dated as of February 1, 2013 (the "Tenth Supplemental Indenture"), each between the Trustee and the City. The Master Indenture and the Tenth Supplemental Indenture are referred to collectively as the "Indenture."

We refer you to the 2013 Bonds and the Indenture for a description of the purposes for which the 2013 Bonds are issued, their terms and the security for them.

In connection with this opinion, we have examined (i) the Constitution of Virginia (the "Constitution"), (ii) the applicable laws of (A) the Commonwealth of Virginia (the "Commonwealth"), including without limitation the Public Finance Act of 1991, Chapter 26, Title 15.2, Code of Virginia of 1950, as amended, and (B) the United States of America, including without limitation the Internal Revenue Code of 1986, as amended (the "Code"), and (iii) copies of proceedings and other documents relating to the issuance and sale of the 2013 Bonds by the City as we have deemed necessary to render this opinion.

As to questions of fact material to our opinion, we have relied upon (i) representations of the City, including, without limitation, representations as to the use of proceeds of the 2013

Bonds, (ii) certifications of public officials furnished to us, and (iii) certifications and representations contained in certificates of the City and others delivered at closing, without undertaking to verify them by independent investigation.

We have assumed that all signatures on documents, certificates, and instruments examined by us are genuine, all documents, certificates, and instruments submitted to us as originals are authentic, and all documents, certificates, and instruments submitted to us as copies conform to the originals. In addition, we have assumed that all documents, certificates, and instruments relating to this transaction have been duly authorized, executed, and delivered by all parties to them other than the City, and we have further assumed the due organization, existence, and powers of all parties other than the City.

Based on the foregoing, in our opinion, under current law:

1. The City has the requisite authority and power to enter into the Indenture to issue and sell the 2013 Bonds, and to apply the proceeds from the issuance and sale of the 2013 Bonds as set forth in the Tenth Supplemental Indenture. Neither the faith and credit of the Commonwealth nor the faith and credit of the City or any other political subdivision of the Commonwealth are pledged to the payment of the principal of or premium, if any, or interest on the 2013 Bonds.

2. The 2013 Bonds have been duly authorized, executed, and delivered in accordance with the Constitution and statutes of the Commonwealth and the Indenture and constitute valid and binding limited obligations of the City, payable solely from the Net Revenues and other property pledged for such purpose under the Indenture for the security of the 2013 Bonds on a parity with the bond currently outstanding under the Indenture (the "Outstanding Bonds"), any additional bonds to be issued in the future under the Indenture ("Additional Bonds") and any parity indebtedness incurred in the future under the Indenture ("Parity Indebtedness").

3. The Indenture has been duly authorized, executed, and delivered by the City, constitutes a valid and binding obligation of the City, and is enforceable against the City in accordance with its terms. The Tenth Supplemental Indenture complies in all respects with the requirements of the Master Indenture.

4. The Master Indenture requires the City to fix, revise, and collect rates, fees, and other charges for the use of and for the services furnished by the City's water system so that the revenues, receipts and income derived therefrom after payment of the City's operating expenses (the "Net Revenues") will be at least sufficient to pay when due, among other things, the principal of and interest on the Outstanding Bonds and the 2013 Bonds.

5. Additional Bonds may be issued and Parity Indebtedness incurred from time to time under the conditions, limitations, and restrictions set forth in the Master Indenture, and will be secured equally and ratably as to the pledge of Net Revenues with the Outstanding Bonds and the 2013 Bonds.

6. Interest on the 2013 Bonds, including any accrued "original issue discount" properly allocable to the owners of the 2013 Bonds, is (i) excludable from gross income for purposes of federal income taxation under Section 103 of the Code, (ii) not a specific item of tax preference for purposes of the federal alternative minimum income tax imposed on individuals and corporations. Interest on the 2013 Bonds must be included in adjusted current earnings for purposes of computing the alternative minimum tax imposed on corporations (as defined for federal income tax purposes) under Section 56 of the Code. The "original issue discount" on any 2013 Bond is the excess of its stated redemption price at maturity over the initial offering price to the public at which price a substantial amount of the 2013 Bonds of the same maturity was sold. The "public" does not include bond houses, brokers or similar persons or organizations acting in the capacity of underwriters, placement agents or wholesalers. We express no opinion regarding other federal tax consequences arising with respect to the 2013 Bonds.

In delivering this opinion, we are (i) relying upon and assuming the accuracy of certifications and representations of representatives of the City as to facts material to the opinion, and (ii) assuming continuing compliance with the Covenants (as defined below) by the City, so that interest on the 2013 Bonds will remain excludable from gross income for federal income tax purposes. The Code and the regulations promulgated thereunder contain a number of requirements that must be satisfied after the issuance of the 2013 Bonds in order for interest on the 2013 Bonds to be and remain excludable from gross income for purposes of federal income taxation. These requirements include, by way of example and not limitation, restrictions on the use, expenditure and investment of the proceeds of the 2013 Bonds and the use of the property financed or refinanced by the 2013 Bonds, limitations on the source of the payment of and the security for the 2013 Bonds, and the obligation to rebate certain excess earnings on the gross proceeds of the 2013 Bonds to the United States Treasury. The tax certificate and related documents for the 2013 Bonds (the "Tax Certificate") delivered at closing by the City contain covenants (the "Covenants") with which it has agreed to comply. Failure to comply with the Covenants could cause interest on the 2013 Bonds to become includable in gross income for federal income tax purposes retroactive to their date of issue. In the event of noncompliance with the Covenants, the available enforcement remedies may be limited by applicable provisions of law and, therefore, may not be adequate to prevent interest on the 2013 Bonds from becoming includable in gross income for federal income tax purposes.

We have no responsibility to monitor compliance with the Covenants after the date of issue of the 2013 Bonds.

Certain requirements and procedures contained, incorporated or referred to in the Tax Certificate, including the Covenants, may be changed and certain actions may be taken or omitted under the circumstances and subject to the terms and conditions set forth in such document. We express no opinion concerning any effect on the excludability of interest on the 2013 Bonds from gross income for federal income tax purposes of any such subsequent change or action that may be made, taken or omitted upon the advice or approval of counsel other than this firm.

8. Interest on the 2013 Bonds is excludable from the gross income of the owners thereof for purposes of income taxation by the Commonwealth. We express no opinion regarding (i) other tax consequences arising with respect to the 2013 Bonds under the laws of the Commonwealth or (ii) any consequences arising with respect to the 2013 Bonds under the tax laws of any state or local jurisdiction other than the Commonwealth.

The obligations of the City under the 2013 Bonds and the Indenture are subject to the provisions of applicable bankruptcy, insolvency, reorganization, moratorium, and similar laws, now or hereafter in effect, relating to or affecting the enforcement of creditors' rights generally. Such obligations are also subject to usual equitable principles, which may limit the specific enforcement of certain remedies but which do not affect the validity of the obligations.

Our services as Bond Counsel have been limited to rendering the foregoing opinion based on our review of such legal proceedings as we deem necessary to approve the validity of the 2013 Bonds and the income tax status of the interest on them. We express no opinion as to the accuracy or completeness of any information that may have been relied upon by any owner of the 2013 Bonds in making a decision to purchase the 2013 Bonds, including without limitation the Preliminary Official Statement of the City dated February 4, 2013, and the Official Statement of the City dated February 11, 2013. This opinion is given as of the date hereof, and we assume no obligation to revise or supplement this opinion to reflect any facts or circumstances that may hereafter come to our attention, or any changes in law that may hereafter occur.

Very truly yours,

**CERTAIN INFORMATION CONCERNING THE CITY**

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## THE CITY OF NORFOLK

### INTRODUCTION

The City of Norfolk was established as a town in 1682, as a borough in 1736 and incorporated as a city in 1845. The City lies at the mouth of the James and Elizabeth Rivers and the Chesapeake Bay, and is adjacent to the Atlantic Ocean and the cities of Virginia Beach, Portsmouth and Chesapeake.

**Table D-1**  
**City of Norfolk, Virginia**  
**Area of City**

| <u>Year</u> | <u>Square Miles</u> |
|-------------|---------------------|
| 1950.....   | 37.19               |
| 1960.....   | 61.85               |
| 1970.....   | 61.85               |
| 1980.....   | 65.75               |
| 1990.....   | 65.98               |
| 2013.....   | 65.98               |

### CITY GOVERNMENT

Norfolk is an independent, full-service City with sole local government taxing power within its boundaries. It derives its governing authority from the City Charter, originally adopted by the General Assembly of Virginia (The "General Assembly") in 1918, which authorizes a council-manager form of government. The City Council exercises all of the governmental powers conferred upon the City. Having sought and gained approval from the U.S. Justice Department and the General Assembly, the City gave its citizens the right to elect their Mayor directly, effective May 2006. Previously the City's Mayor had been chosen by the City Council from among its members. This change added an eighth member to the City Council, with the Mayor elected at large, and retains the current seven wards with two members elected from super wards. The City Council elects a Vice Mayor from among its members. Among the City officials appointed by the City Council is the City Manager, the administrative head of the municipal government. The City Manager carries out its policies, directs business procedures and appoints, with the power to remove, the heads of departments and other employees of the City except those otherwise specifically covered by statutory provisions. The City Council also appoints certain boards, commissions and authorities of the City.

#### Certain Elected Officials

The City's current elected officials include:

#### **Paul D. Fraim, Mayor**

In May 2006, Mayor Fraim became the City's first popularly elected mayor in nine decades. Mayor Fraim is a 26-year incumbent on City Council, and was first elected Mayor by his peers in 1994. He is the president of the law firm Fraim & Fiorella, P.C., and was first elected to City Council in 1986. He has a Bachelor of Arts degree from Virginia Military Institute, Lexington, Virginia, and a Master's in Education degree from the University of Virginia, Charlottesville, Virginia. He received his law degree from the University of Richmond, Richmond, Virginia. Mayor Fraim is an active member of the Virginia State Bar, the Virginia Bar Association and the Norfolk-Portsmouth Bar Association and has held a number of leadership positions in these organizations.

**Anthony L. Burfoot, Vice Mayor**

Mr. Burfoot, representing Ward 3, was first elected to City Council in July 2002. He is employed by New York Life as a licensed Life and Annuities Health Agent. Effective December 15, 2008, Vice Mayor Burfoot became a chief deputy for Norfolk's City Treasurer Thomas W. Moss, Jr. He received a Bachelor of Science degree in Public Administration and a Master's degree in Educational and Administrative Supervision from Virginia State University, Petersburg, Virginia. He is involved in many civic and business activities.

**Andrew A. Protogyrou, Council Member**

Mr. Protogyrou, representing Ward 1, was first elected to City Council in May 2010. Mr. Protogyrou is an attorney and a member of Protogyrou & Rigney, P.L.C. He has a Bachelor of Arts degree from Virginia Military Institute, Lexington, Virginia, and he received his law degree from the University of Richmond, Richmond, Virginia. Mr. Protogyrou is active in many local professional and civic organizations, where he has held a number of leadership positions.

**Paul R. Riddick, Council Member**

Mr. Riddick, representing Ward 4, was first elected to City Council in July 1992. He is the owner and operator of Riddick Funeral Service in Norfolk. He attended Norfolk State University, Norfolk, Virginia, and has an Associates in Art and Sciences degree in Funeral Service from John Tyler Community College, Chester, Virginia. Mr. Riddick is active in many local professional organizations.

**Thomas R. Smigiel, Council Member**

Mr. Smigiel, representing Ward 5, was first elected to City Council in May 2010. He received a Bachelor of Science degree in Education from Old Dominion University, Norfolk, Virginia, and a Master's degree in School Administration from Cambridge College's Regional Center, Chesapeake, Virginia. He is currently an Assistant Principal at Lake Taylor High School in Norfolk. He is involved in many local professional and civic organizations, where he has held a number of leadership positions.

**Dr. Theresa W. Whibley, Council Member**

Dr. Whibley, representing Ward 2, was first elected to City Council in July 2006. She is an obstetrician and gynecologist in private practice at Woman Caring, PLC in Norfolk. Dr. Whibley is a graduate of Eastern Virginia Medical School, Jones Institute of Reproductive Medicine, Norfolk, Virginia, Old Dominion University, Norfolk, Virginia and the College of William and Mary, Williamsburg, Virginia. Dr. Whibley is active in many local professional organizations.

**Angelia M. Williams, Council Member**

Ms. Williams, representing Super Ward 7, was first elected to City Council in November 2010. She holds a current real estate license and is a realtor with Long & Foster Realtors. Ms. Williams received an Associate of Science degree in Business Administration from Tidewater Community College in 2004. She graduated from the University of Virginia's Sorensen Institute for Political Leadership in 2005 and from the Alpha School of Real Estate in 2008. She is currently working toward her Bachelor's degree in Business Administration and Political Science at Old Dominion University, Norfolk, Virginia. She is involved in many local professional and civic organizations, where she has held a number of leadership positions.

**Barclay C. Winn, Council Member**

Mr. Winn, representing Super Ward 6, was first elected to City Council in July 2000. He is the Chief Executive Officer of Winn Nursery of Virginia, Inc., which is headquartered in Norfolk. He received a Bachelor of Science degree from North Carolina State University, Raleigh, North Carolina. Mr. Winn is active in many civic and business activities.

### **Certain Appointed Officials**

#### **Marcus D. Jones, City Manager**

Marcus D. Jones returned to the City of Norfolk in February 2011 to assume the post of City Manager. His responsibilities include the supervision of the administrative operations of the City including the preparation of its annual budget. Prior to returning to Norfolk, he served as Deputy Chief Administrative Officer for Finance & Administration for the City of Richmond, Virginia. Prior to serving in Richmond, Mr. Jones served as an Assistant City Manager and Director of Budget & Grants Management for the City of Norfolk from 2007 to 2009. In the prior decade, Mr. Jones served the Commonwealth as Governors Mark Warner and Jim Gilmore's, Deputy Secretary of Finance and Assistant Secretary of Finance, respectively. He earned his Bachelor's degree in Public Administration from James Madison University, Harrisonburg, Virginia, and a Master's degree in Public Administration from Virginia Commonwealth University, Richmond, Virginia.

#### **Alice M. Kelly, CPA, Director of Finance**

Alice M. Kelly assumed her position as Director of Finance in December 2012. At the direction of the City Manager, she is responsible for identifying strategic opportunities for the City in the policy areas of taxation, financial management and fiscal policy development. In addition, she is responsible for the administration of the financial affairs of the City which include cash management and investments, debt management, financial accounting and reporting, procurement, risk management and retiree benefits. Ms. Kelly has worked for the City since April 1990 in various capacities and departments including Utilities, Finance and Public Works. She previously served as Acting Director of Finance from June 2008 to August 2009, and prior to her appointment as Director of Finance, her most recent position was Assistant Director of Public Works. Ms. Kelly earned a Bachelor of Science degree in Accounting from Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, Virginia. She is a licensed Certified Public Accountant.

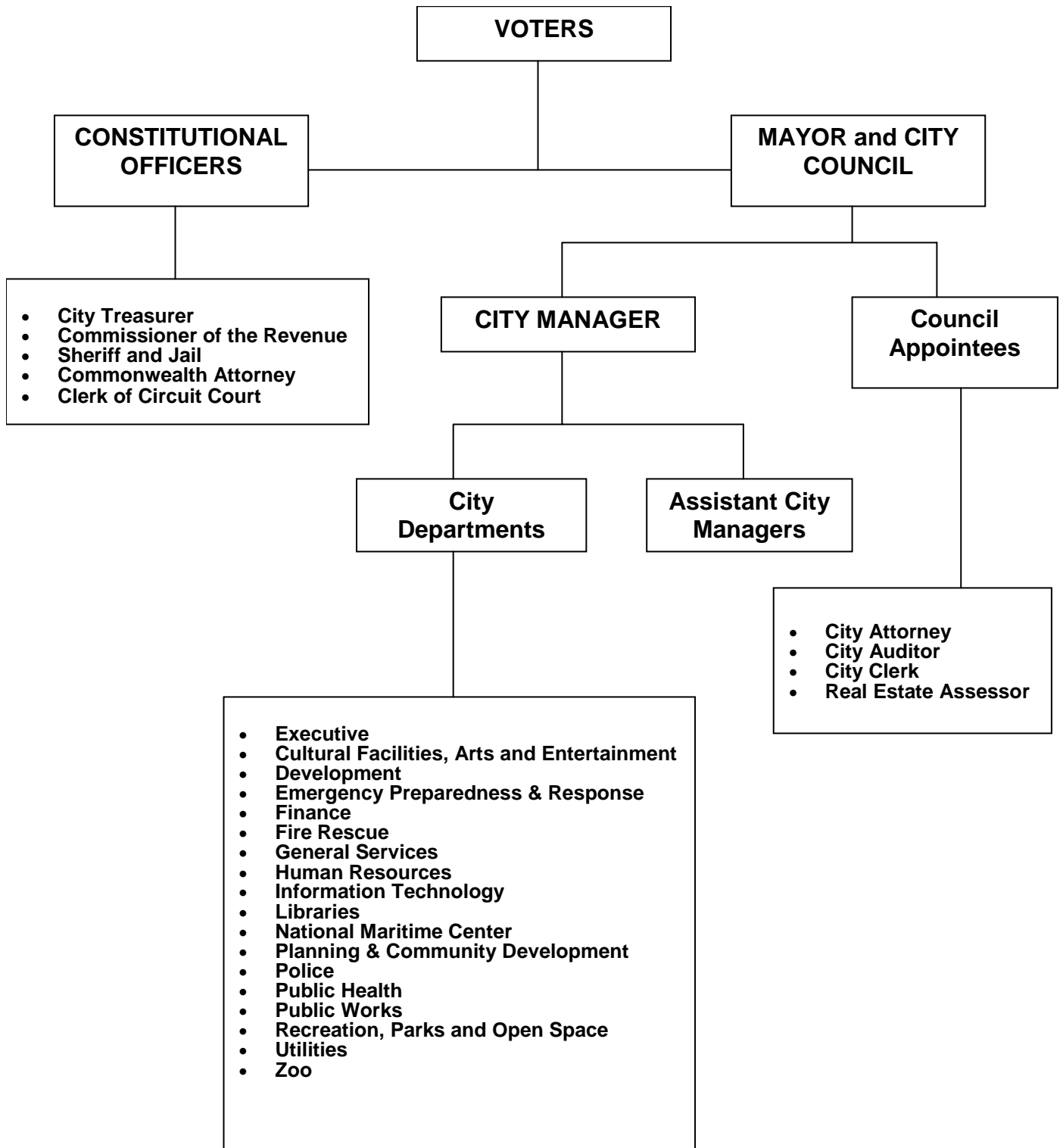
#### **Bernard A. Pishko, City Attorney**

Bernard A. Pishko was first appointed by City Council as City Attorney in November 1997. He previously served as Deputy City Attorney from 1989 to 1997 and as an Assistant City Attorney from 1984 to 1989. He has practiced law since 1982. The City Attorney is also general counsel for the Norfolk School Board, Norfolk Recreational Facilities Authority, Norfolk Community Services Board, Hospital Authority of Norfolk, Norfolk Municipal Employees' Retirement System, Norfolk Electoral Board, Civil Service Commission and The Chrysler Museum of Art. Mr. Pishko is a member of many professional associations and community organizations. He received his undergraduate degree from Brown University, Providence, Rhode Island, a Master's degree in Business Administration from the College of William and Mary, Williamsburg, Virginia, and a law degree from the Marshall-Wythe School of Law, Williamsburg, Virginia.

### **Governmental Services and Facilities**

In Virginia, cities and counties are not overlapping units of government. Each city or county is a distinct political entity providing services for the population within its respective jurisdiction. The City provides a comprehensive range of public services characteristic of its form of government under Virginia law. These services are designed to provide an environment within which the educational, physical, social and cultural needs of its citizens are met. These general governmental services include police protection, fire and paramedical services, public health and social services, planning and zoning management, code enforcement, storm water management, street maintenance, traffic control, parks and cemeteries operation and maintenance, recreation and library services, economic development, solid waste disposal and general administrative services. In addition, water and wastewater utilities and parking facilities services are provided under an enterprise fund concept with user-charges set by City Council.

# City Organization



## **OTHER GOVERNMENTAL ENTITIES**

### ***School Board of the City of Norfolk***

The seven members of the School Board are appointed by the City Council. The School Board is a corporate body and in its corporate capacity is vested with all of the duties, obligations and responsibilities imposed upon school boards by law. The City Council is required to appropriate annually to the School Board the amount needed for the support of the public schools in maintaining educational programs which meet the standards of quality prescribed by law. Categorical aid from the Commonwealth and the federal government designated for educational purposes is included in the City's General Fund budgetary revenue. This categorical aid, plus monies derived from local sources, provides the funds for the major share of the School Board's operations. On an ongoing basis, the City also issues debt to finance needed capital projects of the school system.

The School Board presently operates 35 elementary schools, nine middle schools, five high schools and several auxiliary schools, including alternative, magnet and specialty programs. For the Fiscal Year 2012 the School Board's expenditures for education totaled \$372,450,353.

### ***Norfolk Airport Authority***

The Norfolk Airport Authority, a political subdivision of the Commonwealth, was created to operate an airport and to promote industrial growth and consists of both an Airport Fund and an Investment Fund. The Airport Fund was established by the Authority to account for the operations of the Norfolk International Airport. Revenue generated by airport operations is used to meet all operating expenses and to provide for payment of all principal and interest on debt of the Authority related to the airport. The Investment Fund was established by the Authority to provide for certain airport capital improvements.

The Authority finances individual capital projects by issuing bonds or obtaining loans and intergovernmental grants in its own name and concurrently entering into leases which provide for payment of all principal and interest on the related obligations as they become due. Revenue includes rental income on non-airport property owned by the Authority and interest on investments.

The Authority's Commissioners are appointed by City Council, but the Commission designates its own management and has oversight responsibility for its own financial matters. The City does not provide funds for the operations of the Authority, and pursuant to Section 144(q) of the City Charter, the Authority is required to submit its annual budget to the City Council for the purposes of information only. The City has the option to reacquire, without consideration, title to all property and equipment after payment by the Authority of all obligations relating to the improvements at the airport.

### ***Hampton Roads Regional Jail Authority***

The Hampton Roads Regional Jail Authority ("HRRJA") is a regional organization which includes the cities of Hampton, Newport News, Norfolk and Portsmouth, created for the purpose of providing, operating and maintaining a regional jail facility for the correctional overflow from each community. HRRJA is a primary government, with no component units, that is a body politic and corporate created pursuant to Article 3.1, Chapter 3, Title 53.1 of the Virginia Code and is governed by a 12 member Board of Directors, consisting of three representatives appointed by each of the member cities. The budgeting and financing of HRRJA are subject to the approval of the Board of Directors, with each individual having a single vote. HRRJA is responsible for its own financial matters, maintains its own books of account and is audited annually by independent accountants that it engages.

The regional jail facility (the "Jail"), which opened in April 1998, consists of approximately 385,518 square feet of building area, including three housing building units, a support building and a central plant. The Jail holds 875 inmates, 250 of which are designated to the City. The City is responsible for 28.57% of the total operating cost less the revenue derived from the Virginia Compensation Board and the per diem reimbursement from the Commonwealth for the housing of state inmates.

### ***The Southeastern Public Service Authority of Virginia***

The Southeastern Public Service Authority ("SPSA") is a joint venture of the cities of Chesapeake, Franklin, Norfolk, Portsmouth, Suffolk and Virginia Beach and the counties of Isle of Wight and Southampton, created for the purpose of providing, operating and maintaining a regional system for the collection, transfer, processing and disposal of solid waste refuse.

SPSA is a primary government, with no component units, that is a public body politic and corporate created pursuant to the Virginia Water and Sewer Authorities Act, and is governed by an eight-member Board of Directors, consisting of a representative appointed by each of the member cities and counties. Budgeting and financing of SPSA is subject to the approval of the Board of Directors, with each individual having a single vote. SPSA is responsible for its own financial matters, maintains its own books of account and is audited annually by independent accountants that it engages.

The regional system includes solid waste transfer stations in each of the member jurisdictions, a landfill, rolling stock and ancillary facilities.

### ***Transportation District Commission of Hampton Roads***

Hampton Roads Transit ("HRT") was created on October 1, 1999, with the consolidation of the Tidewater Regional Transit and Peninsula Transportation District Commission. It is believed to be the first voluntary merger of public transit agencies in the nation. The district continues to be a political subdivision of the Commonwealth, formed as a joint exercise of governmental power in accordance with the provisions of Chapter 32 of Title 15.2 of the Virginia Code. The District provides public transportation facilities and services within cities of Norfolk, Chesapeake, Hampton, Newport News, Portsmouth, Suffolk and Virginia Beach.

The Transportation District Commission of Hampton Roads, a political subdivision of the Commonwealth, was formed on May 9, 1973, as a joint exercise of governmental power in accordance with provisions of Chapter 32 of Title 15.2 of the Virginia Code.

### ***Hospital Authority of Norfolk***

The Hospital Authority of Norfolk (the "HAN"), which has a nine-member Board of Commissioners appointed by City Council, is a tax-exempt, not-for-profit political subdivision of the Commonwealth. The HAN operates Lake Taylor Hospital as a long-term care facility licensed by the Virginia State Health Department to provide a continuum of patient care ranging from sub-acute hospital services to skilled nursing care.

### ***Norfolk Redevelopment and Housing Authority***

The Norfolk Redevelopment and Housing Authority ("NRHA"), a political subdivision of the Commonwealth, was created by the City on July 30, 1940, under the provisions of the United States Housing Act of 1937. The NRHA provides subsidized public housing and administers redevelopment and conservation efforts within the City in accordance with state and federal legislation. The seven members of the Board of Commissioners are appointed by City Council. The NRHA is responsible, through a contract with the City, for the administration of such activities as community development and urban renewal. The NRHA develops its operating budget without approval from the City Council and executes contracts on its own behalf. The City does not exercise a significant degree of oversight responsibility for the NRHA, as it is responsible for designating its own management, developing its own operating budget and executing major contracts on its own behalf. The NRHA is responsible for its own financial matters as it maintains its own books of account, is audited annually by independent accountants it engages, and has authority over earnings, deficits and monies other than City contract funds. The City contracts with NRHA to complete specific projects, generally capital improvement projects.

## ECONOMIC AND DEMOGRAPHIC FACTORS

### **Population**

As reflected in Table D-2 and D-3 below, from 2003 to 2012 the City's population grew 3.9%. The City is the second most populous city in Virginia, as shown in Table D-3.

**Table D-2  
Population Trend Comparisons  
2003-2012**

| <b>Year</b> | <b>Norfolk<sup>(1)</sup></b> | <b>Hampton Roads<br/>MSA<sup>(1)(2)</sup></b> | <b>Virginia<sup>(3)</sup></b> | <b>U.S.<sup>(3)</sup></b> |
|-------------|------------------------------|-----------------------------------------------|-------------------------------|---------------------------|
| 2003        | 236,550                      | 1,583,900                                     | 7,363,300                     | 290,210,914               |
| 2004        | 238,650                      | 1,605,900                                     | 7,454,688                     | 292,892,127               |
| 2005        | 239,396                      | 1,615,415                                     | 7,546,725                     | 295,560,549               |
| 2006        | 239,355                      | 1,619,600                                     | 7,628,347                     | 298,362,973               |
| 2007        | 241,941                      | 1,623,624                                     | 7,698,775                     | 301,290,332               |
| 2008        | 242,983                      | 1,632,970                                     | 7,795,424                     | 304,059,724               |
| 2009        | 243,957                      | 1,644,005                                     | 7,882,590                     | 307,006,550               |
| 2010        | 242,803                      | 1,648,136                                     | 8,001,024                     | 308,745,538               |
| 2011        | 243,985                      | 1,661,279                                     | 8,096,604                     | 311,591,917               |
| 2012        | 245,803                      | 1,679,326                                     | 8,185,861                     | 313,914,040               |

Sources: U.S. Census Bureau and the Weldon Cooper Center.

Notes: (1) Norfolk and Hampton Roads MSA population estimates are from the Weldon Cooper Center, except for the 2010 population estimates, which are from the U.S. Census Bureau.  
 (2) The Hampton Roads MSA is the Virginia portion only.  
 (3) U.S. and Virginia population estimates are from the U.S. Census Bureau.

**Table D-3  
Five Most Populous Cities in Virginia**

| <b>City</b>    | <b>2010 Census<br/>Population</b> | <b>2012<br/>Population<br/>Estimate</b> |
|----------------|-----------------------------------|-----------------------------------------|
| Virginia Beach | 437,994                           | 447,489                                 |
| Norfolk        | 242,803                           | 245,803                                 |
| Chesapeake     | 222,209                           | 228,210                                 |
| Richmond       | 204,219                           | 208,834                                 |
| Newport News   | 180,719                           | 183,331                                 |

Source: U.S. Census Bureau and the Weldon Cooper Center.

Table D-4 provides an annual comparison of per capita personal income since 2002.

**Table D-4**  
**City of Norfolk, Virginia**  
**Per Capita Personal Income Comparisons**

| <b>Year</b> | <b>City</b> | <b>Hampton Roads<br/>MSA</b> | <b>State</b> | <b>U.S.</b> |
|-------------|-------------|------------------------------|--------------|-------------|
| 2002        | \$26,006    | \$29,603                     | \$33,737     | \$31,481    |
| 2003        | 27,893      | 31,442                       | 35,033       | 32,295      |
| 2004        | 28,930      | 32,723                       | 36,869       | 33,909      |
| 2005        | 30,609      | 34,413                       | 38,898       | 35,452      |
| 2006        | 32,609      | 36,567                       | 41,218       | 37,725      |
| 2007        | 34,375      | 38,689                       | 43,261       | 39,506      |
| 2008        | 35,330      | 40,146                       | 44,691       | 40,947      |
| 2009        | 34,690      | 39,325                       | 43,192       | 38,846      |
| 2010        | 35,816      | 40,234                       | 44,267       | 39,937      |
| 2011        | 36,873      | 41,976                       | 46,107       | 41,560      |

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System.

The age distribution of the City's population is presented in Table D-5.

**Table D-5**  
**City of Norfolk, Virginia**  
**City Population Distribution by Age**  
**1960-2010**

| <b>Year</b> | <b>Population</b> | <b>Under 20</b> | <b>20-64</b> | <b>65 or Older</b> |
|-------------|-------------------|-----------------|--------------|--------------------|
| 1960        | 305,872           | 39.8%           | 54.5%        | 5.7%               |
| 1970        | 307,951           | 35.4            | 57.8         | 6.8                |
| 1980        | 266,979           | 30.7            | 60.1         | 9.2                |
| 1990        | 261,250           | 28.1            | 61.4         | 10.5               |
| 2000        | 234,403           | 27.3            | 61.5         | 11.2               |
| 2010        | 242,803           | 25.3            | 65.3         | 9.4                |

Source: U.S. Census Bureau.



## **Housing and Construction Availability**

Table D-6 provides an annual breakdown of residential building permits over the past 10 fiscal years.

**Table D-6**  
**City of Norfolk, Virginia**  
**Residential Construction**  
**Fiscal Years 2003 – 2012**

| <b>Fiscal Year</b> | <b>Building Permits</b> | <b>Number of Units</b> | <b>Value (in thousands)</b> |
|--------------------|-------------------------|------------------------|-----------------------------|
| 2003               | 287                     | 609                    | \$ 61,790                   |
| 2004               | 506                     | 766                    | 83,525                      |
| 2005               | 560                     | 1,191                  | 204,391                     |
| 2006               | 531                     | 1,058                  | 133,053                     |
| 2007               | 389                     | 491                    | 68,476                      |
| 2008               | 277                     | 815                    | 101,212                     |
| 2009               | 209                     | 535                    | 35,878                      |
| 2010               | 191                     | 621                    | 58,729                      |
| 2011               | 221                     | 479                    | 37,298                      |
| 2012               | 268                     | 371                    | 39,360                      |

Source: Permit Tracking System, Department of Planning, City of Norfolk, Virginia.

Table D-7 presents annual nonresidential construction permits, which includes commercial buildings, public buildings, schools, public utility buildings and miscellaneous structures, over the past 10 fiscal years.

**Table D-7**  
**City of Norfolk, Virginia**  
**Nonresidential Construction**  
**Fiscal Years 2003 – 2012**

| <b>Fiscal Year</b> | <b>Building Permits</b> | <b>Value (in thousands)</b> |
|--------------------|-------------------------|-----------------------------|
| 2003               | 35                      | \$ 24,084                   |
| 2004               | 59                      | 134,197                     |
| 2005               | 70                      | 70,677                      |
| 2006               | 60                      | 165,989                     |
| 2007               | 55                      | 81,396                      |
| 2008               | 35                      | 102,714                     |
| 2009               | 38                      | 138,131                     |
| 2010               | 35                      | 104,922                     |
| 2011               | 27                      | 40,073                      |
| 2012               | 26                      | 116,401                     |

Source: Permit Tracking System, Department of Planning, City of Norfolk, Virginia.

## **Employment**

Businesses in the City provide residents with employment opportunities in a variety of industries of which services, government and trade are the most significant.

The unemployment rate for the City is illustrated in Table D-8.

**Table D-8**  
**City of Norfolk, Virginia**  
**Unemployment Rates**  
**2003 – 2012**

| <b>Year</b>         | <b>Hampton Roads</b> |            |                 | <b>U.S.</b> |
|---------------------|----------------------|------------|-----------------|-------------|
|                     | <b>Norfolk</b>       | <b>MSA</b> | <b>Virginia</b> |             |
| 2003                | 5.3%                 | 4.2%       | 4.1%            | 6.0%        |
| 2004                | 5.1                  | 4.0        | 3.7             | 5.5         |
| 2005                | 5.0                  | 3.9        | 3.5             | 5.1         |
| 2006                | 4.2                  | 3.3        | 3.0             | 4.6         |
| 2007                | 4.1                  | 3.2        | 3.1             | 4.6         |
| 2008                | 5.3                  | 4.2        | 4.0             | 5.8         |
| 2009                | 8.7                  | 7.0        | 6.9             | 9.3         |
| 2010                | 8.0                  | 7.3        | 6.9             | 9.6         |
| 2011                | 8.4                  | 7.0        | 6.2             | 8.9         |
| 2012 <sup>(1)</sup> | 7.2                  | 5.9        | 5.4             | 7.6         |

Source: U.S. Bureau of Labor Statistics.

Note: (1) Figures as of December 2012.

**Table D-9**  
**City of Norfolk, Virginia**  
**Civilian Employment and Average Weekly Gross Wages**  
**2<sup>nd</sup> Quarter, 2012**

|                                   | <b>Number of<br/>Establishments</b> | <b>Number of<br/>Employees</b> | <b>Average<br/>Weekly<br/>Wage</b> | <b>Percentage of<br/>Employment</b> |
|-----------------------------------|-------------------------------------|--------------------------------|------------------------------------|-------------------------------------|
| Construction                      | 393                                 | 4,234                          | \$ 867                             | 3.06%                               |
| Manufacturing                     | 146                                 | 6,759                          | 981                                | 4.88                                |
| Trade, Transportation & Utilities | 1,248                               | 25,637                         | 822                                | 18.52                               |
| Information                       | 103                                 | 2,862                          | 1,022                              | 2.07                                |
| Financial Activities              | 573                                 | 7,881                          | 993                                | 5.69                                |
| Professional & Business Services  | 745                                 | 13,094                         | 1,340                              | 9.46                                |
| Education and Health Services     | 843                                 | 38,396                         | 821                                | 27.74                               |
| Leisure and Hospitality           | 636                                 | 13,387                         | 314                                | 9.67                                |
| Other Services                    | 826                                 | 11,028                         | 682                                | 9.97                                |
| Public Administration             | 74                                  | 14,399                         | 1,231                              | 10.40                               |
| Natural Resources & Mining        | 3                                   | 11                             | 747                                | 0.01                                |
| <b>Total</b>                      | <b>5,599</b>                        | <b>138,421</b>                 | <b>\$ 877</b>                      | <b>100.00%</b>                      |

Sources: U.S. Bureau of Labor Statistics. Virginia Employment Commission, Quarterly Census of Employment & Wages Program. Totals include non-disclosable data.

## **Economic Development**

Economic development initiatives are focused on the attraction, expansion and retention of businesses, neighborhood and community revitalization and commercial corridor development. Some of the City-led initiatives to stimulate commercial revitalization include: Tax Abatement Program, State Enterprise Zone, Federal Empowerment and HUB Zones, Small Area Aesthetic Matching Grant Program, Aesthetic Improvement Grant Pool, Pedestrian Commercial Overlay Zones, Tax and Grant Benefits, Concentrated Development Zone Incentives, public infrastructures, and amenities.

## **Downtown Development**

Downtown offers a mix of cultural attractions and entertainment for its citizens and tourists.

The average vacancy rate for Downtown Class A office space as of January 2013 is approximately 10.65%, as shown in Table D-10 below.

**Table D-10  
City of Norfolk, Virginia  
Downtown Norfolk Vacancy  
January 2013**

| <b>Class A</b>         | <b>Rentable SF</b> | <b>Vacant SF</b> | <b>% Vacant</b> |
|------------------------|--------------------|------------------|-----------------|
| 150 West Main Street   | 225,498            | 38,142           | 16.91%          |
| Crown Center           | 58,674             | -                | 0.00            |
| Dominion Tower         | 403,276            | 29,039           | 7.20            |
| Main Street Tower      | 187,000            | 4,105            | 2.20            |
| Norfolk Southern Tower | 293,035            | 32,006           | 10.92           |
| Wells Fargo Center     | 299,887            | 46,928           | 15.65           |
| World Trade Center     | 366,106            | 44,993           | 12.29           |
| <b>Total</b>           | <b>1,833,476</b>   | <b>195,213</b>   | <b>10.65%</b>   |

Source: CoStar, January 2013.

Bank presence along Main Street includes Bank of America, BB&T, Monarch, Old Point National, PNC, SunTrust, TowneBank and Wells Fargo. Bank of Hampton Roads, Heritage, Southern Bank and several credit unions are also located downtown.

The Wells Fargo Center, a \$170 million office, retail and residential development opened June 7, 2010, on Monticello Avenue adjacent to the Monticello Avenue light rail station as well as to MacArthur Center, Scope and Chrysler Hall. The Wells Fargo Center adds approximately 255,000 square feet of office space and 50,000 square feet of retail space to the downtown market. This City block development features a 23-story Class A office tower and 1,850 parking spaces in two garages built by the City. The project also includes Monticello Station, a 121-unit apartment development.

The construction of a new \$123.3 million Consolidated Courts Complex, which broke ground in January 2012, is underway near City Hall adjacent to the Civic Plaza light rail station. This new complex will house the General District, Circuit, and Juvenile and Domestic Relations Courts, and is scheduled to be completed by fall 2015.

The retail presence on Granby Street expanded to include Urban Outfitters, an eclectic national clothing chain that targets teens and young adults, which opened in 2012.

## **Residential Development**

Neighborhood revitalization is one of the City's core initiatives and part of the economic development plan. By increasing the diversity of housing opportunities, the City expects to increase the diversity of its citizenry and expand the tax base. The City's goal for neighborhood and commercial development is to provide an environment that will increase private sector investment, retail sales generation and corresponding municipal revenue generation, create a framework for targeted and coordinated public and private investment and build upon and coordinate with other ongoing community development initiatives.

Residential investment continues to grow throughout the City. The Belmont at Freemason, located downtown adjacent to a Tide light rail station, opened in September 2010. It contains 241 apartments in two buildings and a garage with 531 parking spaces at Brambleton and Bute Streets with an estimated value of \$45 million. Plans are underway to convert two historic buildings, the former Union Mission (renamed the Rockefeller) and the Savoy, into affordable work force apartments. Other new residential projects downtown include 401 Granby Street (65 units), 416 Boush (71 units), and the Wainwright Apartments (126 units).

Residential development also continues to grow in areas beyond downtown Norfolk. The River House, a \$32 million, 194-unit luxury apartment community on Haven Creek at the Granby Street Bridge is complete. The River House is anticipated to strengthen the Riverview commercial corridor and boost prospects for development of adjoining property in this vital area situated between two desirable and historic neighborhoods. 201 Twenty-One, a \$41 million, mixed-use 4-story structure in Ghent with 224 apartments and over 50,000 square feet of retail space, opened in September 2010. The District at ODU, a project with 307 apartments specifically targeted to students attending Old Dominion University, opened in August 2010. The 180-unit Meadowood Apartments, a \$21 million investment, opened in October 2011. SouthWind Apartments, a \$15 million development in Denby Park on a former trailer park, is now occupied. Additional investment along Newport Avenue includes Westport Commons, an \$80 million townhouse/condominium project. Promenade Pointe in Roland Park, with 187 apartments, is under construction. Two additional apartment projects that are in varying stages of development include Waters Edge in Campostella, with 246 units and The Green, in Ghent, with 164 units.

The seven-mile stretch of beaches on the Chesapeake Bay known as Ocean View experienced redevelopment over the past decade. The East Beach section of Ocean View will have 700 housing units with prices ranging from \$350,000 to over \$1.5 million, with an average home sales price of \$733,507. A portion of the homes are currently occupied with the remainder of the properties planned for development. Lot sales total approximately \$47 million representing nearly \$230 million in home values and approximately \$2,553,000 in annual real estate taxes to the City. The East Beach community was the site of 2012 Homearama, which was the third time it was held there. A 157-unit condominium development to the south of East Beach, Pointe East at Harbor Walk, is being developed by Franciscus Homes. East Beach Marina Apartments, with 136 units, is also being developed.

Broad Creek is a \$200 million community near Norfolk State University with 600 mixed-income homes. In Broad Creek, the region's first mixed-use, mixed-income community, construction is complete on 400 rental units and 70 homes. Construction on Broad Creek Village, a mixed-use residential and retail development, began during 2008, and is being followed by Broad Creek's final phase of 200 mixed-income residential units north of Princess Anne Road.

The City is also redeveloping the Fort Norfolk area, which is a 30-acre urban waterfront area linking downtown Norfolk to the region's medical complex and Ghent community. In the Fort Norfolk section of downtown Norfolk, the City's first retirement community, known as Harbor's Edge, opened in September 2006. Riverview Lofts, a project to convert a former industrial building into 81 condominiums, was completed in 2012 and is now leasing. Fort Norfolk Plaza, across Brambleton from the medical complex that includes Sentara Norfolk General Hospital and Eastern Virginia Medical School, is a \$70 million, 9-story medical office tower and parking garage that opened in August 2010.

## **Arts and Culture**

Norfolk offers a mix of cultural attractions and entertainment for its citizens and tourists. Norfolk's entertainment and theatre venues include the Attucks Theatre, the Harrison Opera House, Chrysler Museum, and the "Theater District" which includes Chrysler Hall, Jeanne and George Roper Theater, Wells Theatre and the NorVa.

Two major projects underway in 2013 are: the expansion and renovation of the Chrysler Museum of Art, and the consolidation on Granby Street downtown of the Governor's School for the Arts. The \$24 million Chrysler Museum project will include a 10,000 square foot addition as well as replacement of the aging heating and cooling system. The Governor's School for the Arts is consolidating several instruction spaces into the historic 52,000 square foot Monroe Building, spurring a \$9 million renovation. The consolidated Granby Street campus will be home to over 360 students, faculty and staff.

Other recent investments to the City's cultural attractions include the Virginia Arts Festival headquarters, a home for the Hurrah Players, and the Chrysler Museum Glass Art Studio. The Virginia Arts Festival moved into its 18,000-square-foot building, the Clay and Jay Barr Education Center, on August 23, 2010. The building, which is located across the street from Chrysler Hall, houses year-round education outreach activities, a rehearsal and intimate performance space, as well as the Festival's administrative offices. Adjacent to the Education Center is the home of the Hurrah Players, which features a 100-seat theater and two rehearsal halls. The Chrysler Museum Glass Studio, an addition to Norfolk's Chrysler Museum, opened in November 2011. The studio is a state-of-the-art, 7,000 square foot facility which supports artists working in a variety of glassmaking processes, including blown glass, casting, fusing, flameworking, and cold working. Located adjacent to the museum, the facility is the only one of its kind in the Mid-Atlantic region, and spotlights the museum's extensive glass collection.

Improvements to the Virginia Zoological Park for the Trail of the Tiger exhibit have been completed, and construction has begun for a new \$4.25 million animal wellness center. The Zoo Animal Wellness Center will consist of an 8,000 square foot Veterinary Hospital and 3,000 square foot Nutrition Center. The hospital will provide state of the art surgical and treatment suites, laboratory and pharmacy. One wing of the hospital will be for housing animals that have just arrived at the Zoo and animals that may be sick. The surgical and treatment suites will have large viewing windows on the outside walls so visitors will be able to see treatment in progress. The project has an estimated completion date of September 2013.

The Slover Memorial Library, a new main public library, is under construction. It will consist of the interim Norfolk Main Library at the Seaboard Building, located at 235 East Plume Street, and a new adjoining building. A nationally-recognized New Haven, Connecticut architectural firm, Newman Architects, is leading the creative team developing the new library. The City plans to combine the historic integrity of the Seaboard Building with a seamless expansion creating a state-of-the-art, highly efficient library complex. A \$20 million gift from Frank Batten Sr., announced in 2008, allowed the City to accelerate the planning and construction of the downtown library by at least ten years. An additional \$20 million matching grant was announced in 2010, which combined with the City's original \$20 million brings the total project investment to over \$60 million. The MacArthur Memorial completed a \$6 million expansion in 2012. In the Wards Corner section of the City work has begun on a new \$8.5 million performing arts center for Norfolk Collegiate School. A virtual groundbreaking took place in December 2011 for the center, which will include a 425-seat theater, an on-site art gallery, classrooms, workshops, and practice studios.

Today, there are more than 350 public art programs that support thousands of artists' projects in government buildings, the airport, in libraries, in parks and in neighborhoods. Additional artwork is being displayed in the new light rail stations.

In 2006, a Public Arts Commission was established to develop policies for the creation of artwork that will create a unique image and sense of place for Norfolk. The City capital improvement budget allocates 1% of specified construction projects valued at over \$500,000 for the purpose of acquisition of artwork. The first two projects funded from the One Percent for Art funds were incorporated in the Town Point Park renovation which was completed in July 2009. The first was a photo-based tile mural along a new fence in Town Point Park that depicted the downtown waterfront through the years. The second was a stainless-steel mermaid sculpture perched atop a new

fountain between the Half Moone Cruise and Celebration Center and Nauticus that commemorated the 10th anniversary of the mermaid as the City's brand image.

### **Transportation Initiatives**

The City's new light rail system, the Tide, began operation in August 2011, exceeding passenger count expectations. The Tide runs from the EVMC medical complex near Fort Norfolk to the Newtown Road/Virginia Beach city line. Amtrak passenger rail line service connecting Norfolk to Washington DC via Petersburg and Richmond began operation in December 2012. Estimated annual ridership is 67,000. The intercity passenger rail will serve a multi-modal center located at Harbor Park, which includes a light rail station and will feature ferry service to Portsmouth. The initial phase will include construction of a \$3 million, 3,500 square foot train station to support the new service. The facility will link intercity passenger rail to the light rail and regional bus systems, ferry service, cruise ship facilities and provide direct interstate access.

In 2012 construction began on the Downtown Tunnel/Midtown Tunnel/MLK extension project. This \$1.9 billion project achieved financial close on its senior and subordinate funding in April 2012, is planned to occur over the next five years and involves state-backed outreach for small, women-owned, minority or disadvantaged businesses, as well as an on-the-job training program.

On December 20, 2012, the Commonwealth reached a commercial and financial close with US 460 Mobility Partners and Route 460 Funding Corporation of Virginia to finance, design and build a new 55-mile section of the U.S. Route 460 in southeastern Virginia. The new route will be a four-lane divided highway from Prince George County to Suffolk. The Commonwealth anticipates that this project will bring jobs and business benefits to the region and will create opportunities for distribution centers and light manufacturing that will drive cargo through the Port of Virginia.

In 2013 construction is expected to begin on the I-564 intermodal connector project. This \$170 million project is expected to alleviate congestion and improve the level of service on City and naval station streets. The road repositioning is expected to reduce truck traffic on the adjacent roadways.

### **Cruise Norfolk**

The 80,000 square foot Half Moone Cruise and Celebration Center (the "Half Moone Center") opened in spring 2007 and is located in the harbor between Town Point Park and Nauticus/Battleship Wisconsin. The Half Moone Center continues to serve as a multi-purpose facility for the City. In 2012, the City celebrated its eleventh anniversary of welcoming Carnival Cruise Lines to the Half Moone Center. Nearly 40,000 cruise passengers utilized the terminal in 2012, and the City anticipates approximately 50,000 will utilize the terminal in 2013. Additionally in June 2012, the Half Moone Center hosted its second tradeshow. The tradeshow drew visitors and exhibitors from across the Mid-Atlantic region, and the show organizers have reserved a return trip to the City in 2013.

### **Norfolk Airport**

The Norfolk International Airport is served by American, Delta, Southwest, United and US Airways. The airport generates nearly 1,700 jobs and over \$135 million in direct economic impacts annually. In 2012, over 3 million passengers used the airport, a 3.3% increase over 2011. In addition, 2012 saw over 70 million pounds of cargo flow through the airport, a 9.4% increase over 2011. Airport service has remained stable over the past two years, with an average of 75 daily departures.

### **Hotel Development**

Norfolk has nearly 5,000 hotel rooms, including over 1,500 in the downtown area. Tourism and conventions employ over 6,700 workers in the City and generate \$24.1 million in state taxes and \$21.2 million in local tax revenue. Travelers to the City spend over \$690 million annually.

### **Waterfront Recreation Investment**

Town Point Park, located in the downtown area along the Elizabeth River, brings thousands of visitors downtown annually and generates both tax and parking revenue for the City. Construction was completed on an \$11.5 million renovation in July 2009, the first renovation in its 25 year history.

Norfolk was chosen as one of five ports to host OpSail in 2012. The 2012 event was part of the commemoration of the bicentennial of the War of 1812 and the birth of the "Star Spangled Banner." The U.S. Navy participated in a parade of sails and events throughout the region depicting the history of the U.S. Navy. Norfolk and the Port of Hampton Roads hosted the OpSail flotilla from June 6-11, 2012, in conjunction with the City's annual Harborfest.

Norfolk boasts over 144 miles of shore where the Chesapeake Bay meets the Atlantic Ocean. Numerous marinas are all along Downtown's Elizabeth River, the Lafayette River, lakes, the Hampton Roads Harbor and the Chesapeake Bay. East Beach, located on the Chesapeake Bay, was named one of the top restored beaches in America in 2008 by the American Shore and Beach Preservation Association due in part to the investment of \$2.5 million in beach erosion funds.

In December 2011, the City received five proposals from a request for proposals issued by Waterside Associates LLC for the redevelopment of Waterside. The City is negotiating with the Cordish Company for the redevelopment of the Waterside Festival Marketplace.

### **Sports and Recreation**

Norfolk has several waterfronts with the Chesapeake Bay on its north boundary and two major rivers within its boundaries. The City has a public boat ramp in Willoughby Spit with access to the Chesapeake Bay, as well as the recently rehabilitated Haven Creek boat ramp with access to the Lafayette River. Three golf courses are also located within the City.

The Kroc Center, an \$80 million state of the art community center located in the Broad Creek community, broke ground in October 2011. Norfolk is the newest city to have a Kroc Center, which is a program of the Ray and Joan Kroc Foundation and the Salvation Army. The Colonel Samuel L. Slover Memorial Library, Norfolk's new main library located downtown, began construction in 2012. It will have the most technologically advanced programming available today, to be supported by an endowment from the Batten Foundation.

A 24,290 square foot community center located in Lamberts Point opened in February 2010. This community center is adventure-themed and features a 25-foot climbing wall. Lamberts Point is the City's first official "green" building with many environmentally friendly elements. The community center is seeking LEED® (Leadership in Energy and Environmental Design) certification.

Grandy Village is currently undergoing a \$50 million transformation, which includes the construction of the now open Grandy Village Community and Education Center, an outdoor environmental and educational learning laboratory on the riverfront. It features a wetlands nature trail, canoe and kayak launch, and a wetlands pavilion overlooking the water. The new building meets U.S. Green Building Council LEED® standards, and is open to all Norfolk residents.

The Skate Park at Northside Park is a professionally designed, 21,000 square feet skate plaza. The concrete facility integrates transitional and street style elements into one park. Designed to be one of the region's largest, tournament-style skate parks, it boasts one of the largest bowls in Hampton Roads with a 7' to 9' transition next to a mini half-pipe.

The Southside Aquatic Center, a \$7.7 million facility, broke ground in October 2011. The 20,000 square foot facility, located in Campostella, will feature a 25-yard, six-lane competition pool as well as two 1-meter diving boards, a two-story twisty tube slide, locker rooms, and instructional areas. There also will be a handicap-accessible plunge area.

Norfolk is home to the Norfolk Tides, (a AAA minor league baseball team), the Norfolk Admirals (an AHL hockey team) and hosts Arena Racing USA on an indoor track. Old Dominion University ("ODU") began a football program in the fall of 2009, and Norfolk State University has a long-established football program, which currently competes in the Mid-Eastern Athletic Conference.

### **Norfolk's Educational Institutions**

Available within the City are a wide variety of educational facilities including public elementary, middle and high schools, private and parochial schools, two universities, one college, one community college and a medical school.

### **Public Schools**

Norfolk public schools have a low pupil-teacher ratio with class sizes below the national average. Norfolk offers innovative public school programs, which include Early Childhood Education, a unique, comprehensive program for three and four-year-olds and their parents located in the public housing community of Diggs Town, at the Park Place/Colonial Place Community Center and at Ocean Air Elementary.

Norfolk continues to invest in its public schools facilities. Facilities receiving renovations and new construction include Norview High School, Blair Middle School, Bay View Elementary, Granby High School, Taylor Elementary and the School of International Studies at Meadowbrook.

In January 2011, construction commenced on the Crossroads Pre-Kindergarten - 8<sup>th</sup> Grade School, which is designed to replace the existing elementary school, creating a more efficient footprint on the same 10-acre site. The new school features a three story academic wing, a media center, a multi-purpose room, a gymnasium and a student dining area with a performance platform. A dedicated portion of the facility will be used by the Recreation, Parks and Open Space Department including access to many of the public portions of the building.

The City is home to the Governor's Magnet School for the Arts, Virginia's only magnet school for the arts, which offers classes in performing or visual arts to approximately 300 students from six cities and two counties. The school system also has a program for gifted science students that enables them to study at Eastern Virginia Medical School. Student population for the past five fiscal years is shown in Table D-11.

**Table D-11  
City of Norfolk, Virginia  
Public Schools Student Population  
Fiscal Years 2008 - 2012**

| <b>Fiscal Year</b> | <b>September 30<br/>Membership</b> | <b>Percent Change</b> |
|--------------------|------------------------------------|-----------------------|
| 2008               | 32,947                             | -1.92%                |
| 2009               | 32,272                             | -2.05                 |
| 2010               | 31,766                             | -1.57                 |
| 2011               | 31,485                             | -0.85                 |
| 2012               | 31,142                             | -1.09                 |

Source: Virginia Department of Education.



## **Higher Education**

Norfolk is home to five institutions of higher learning: ODU, Norfolk State University, Virginia Wesleyan College, Tidewater Community College and Eastern Virginia Medical School. ODU is one of only 100 public research universities nationwide, with a full and part-time enrollment of over 22,000 students. Norfolk State University is Virginia's largest public, historically black university and the seventh largest in the nation. A \$17.6 million student center at Tidewater Community College's downtown campus opened in summer 2011.

A new \$80 million 100,000-square-foot education and research building at Eastern Virginia Medical School opened to fall classes in 2011. It includes an auditorium, classrooms, exam rooms, training rooms, multidisciplinary labs and research space. The new building, which includes renovations to neighboring Lewis Hall, created space to increase medical student enrollment by 30% and physician assistant student enrollment by 60%.

## **Institutional Technology Parks**

Old Dominion University – University Village. ODU, in partnership with the City, the NRHA, and private developers, continues the expansion of a large scale, mixed-use redevelopment project. This redevelopment project, the University Village, will directly impact 75 acres (13 City blocks) and result in over \$260 million in private and public investments. The project includes student housing, retail, a convocation center, parking, research/office buildings, apartments and a hotel. The research park, named Innovation Research Park, is one of a few research parks in the country located on the campus of its research institution.

Norfolk State University – Research and Innovations to Support Empowerment Center (the "RISE Center"). The RISE Center, located on the campus of Norfolk State University, is designed to promote interaction between the university, the business sector and community and federal agencies in research and technology. The first phase of the Marie V. McDemmond Center for Applied Research houses classrooms, labs and offices for professors in areas such as materials research, engineering and computational science, as well as the office of research and technology.

## **Norfolk's Medical Institutions**

Within the City, there are five general, acute care and specialized hospitals including Sentara Norfolk General Hospital ("Sentara Norfolk General"), Sentara Leigh Hospital, Bon Secours DePaul Medical Center, Children's Hospital of The King's Daughters ("CHKD") and Lake Taylor Transitional Care Hospital ("Lake Taylor Transitional"). Sentara Norfolk General opened a \$100 million heart hospital in February 2006, a 112-bed, 254,000 square foot center. The heart hospital was the first step in Sentara's 2010 expansion plan for the medical complex. CHKD, the site of Virginia's only free-standing, full-service pediatric hospital is home to one of the nation's top pediatric residency programs. With 212 rooms, the hospital serves the medical and surgical needs of children throughout the greater Hampton Roads metro area, the eastern shore of Virginia and northeastern North Carolina.

Sentara Leigh Hospital completed \$20.5 million in renovations to its surgery and emergency departments in August 2010. Work on a major campus upgrade for Sentara Leigh has begun. The current hospital will be replaced with two five-story towers for inpatient rooms, a 48-bed orthopedic and rehabilitation center, and an internal garden, as well as a new parking deck for staff. The \$126 million expansion will increase the hospital's size by more than 40%, to 517,000 square feet. The targeted opening is in January 2016.

DePaul Hospital is also undergoing change, with plans to build and open a new 124-bed DePaul by 2014.

## **The Virginia Port Authority**

In 1981, the General Assembly passed landmark legislation designed to unify the ports in southeastern Virginia Hampton Roads harbor under a single agency, the Virginia Port Authority, with a single operating company, the Virginia International Terminals, Inc. The Port of Virginia (the "Port"), one of the world's largest natural deep-water harbors, is an integral part of Norfolk's economy.

The Virginia Port Authority is one of the top three ports on the east coast in terms of total value of port trade. Over 17.5 million tons of cargo shipped from the region's three main marine cargo terminals in 2012. In 2012, the port handled a total of 17,527,727 tons of general cargo, including 17,155,583 tons of containerized cargo, with 372,144 tons of breakbulk making up the remainder.

**Table D-12**  
**Virginia Port Authority Terminals**  
**General Cargo Tonnage**  
**Calendar Years 2008 - 2012**

| <b>Calendar<br/>Year</b> | <b>Total General<br/>Cargo Tonnage<br/>(000's)</b> | <b>Percent Change<br/>over Previous<br/>Year</b> |
|--------------------------|----------------------------------------------------|--------------------------------------------------|
| 2008                     | 17,833                                             | 0.60%                                            |
| 2009                     | 14,908                                             | (16.40)                                          |
| 2010                     | 15,323                                             | 2.78                                             |
| 2011                     | 15,616                                             | 1.91                                             |
| 2012                     | 17,528                                             | 12.24                                            |

Source: Virginia Port Authority.

Increase in the port-related business use of the Virginia International Terminals drives new capital investment into the region. The Heartland Corridor, opened in September 2010, gives the Port rail access to markets in Ohio, Illinois, Michigan and points west. Additionally, by 2012, a 300-acre expansion of Norfolk International Terminal will be completed making it the largest inter-modal center in the United States. Two new government incentive programs were announced in 2011: the Barge and Rail Use tax credit, which provides a \$25 per twenty foot equivalent unit ("TEU") income tax credit for shippers that transfer their cargo via barge or rail; and the Port Volume Increase tax credit, which provides a \$50 per TEU tax credit for any company engaged in the manufacturing or distribution of manufactured goods that increases its cargo moving through the port by 5% in a taxable year.

### **Business, Industry and Commerce**

Several major companies are headquartered in Norfolk, including:

- Norfolk Southern, a Fortune 500 company and one of the country's largest railroad operators;
- Landmark Communications, one of the country's largest privately owned media companies with ownership of several daily newspapers, local TV stations, and specialty publications;
- Dominion Enterprises, a wholly-owned subsidiary of Landmark Communications, Inc., is a print and internet media group that includes numerous specialty publications and online classifieds;
- FHC Health Systems, one of the top 250 largest private companies in the country, specializing in health care management, health services, and online medical reports;
- CMA CGM Inc., the America's Headquarters, one of the world's largest container transportation and shipping company;
- Portfolio Recovery Associates, a firm whose primary business is the purchase, collection and management of defaulted customer receivables; and
- BlackHawk Products Group, which provides tactical gear such as holsters, body armor, and backpacks to the U.S. Defense Department and law enforcement agencies throughout the world.

The \$14 million Virginia Renaissance Center is being developed by Jacoby Development Group at the site of the former Ford Plant in Campostella. Of the 110 acre site, 40 acres have been sold to Katoen Natie for \$12 million to repackage and distribute plastic pellets. Katoen Natie expects to create 200 jobs, and has an option to purchase a 25 acre site for Phase II future expansion. The remaining acreage is being marketed to port-related and more traditional industrial companies.

There are a large variety of industrial, commercial and service employers located within the City. Table D-13 presents data regarding the major non-government employers in the City.

**Table D-13**  
**City of Norfolk, Virginia**  
**Major Non-Government Employers in 2<sup>nd</sup> Quarter 2012**

| Company                                    | Number of Employees | Product/Service                                         |
|--------------------------------------------|---------------------|---------------------------------------------------------|
|                                            | <b>1,000+</b>       |                                                         |
| Sentara Healthcare                         |                     | Hospitals                                               |
| Old Dominion University                    |                     | Educational Services                                    |
| Children's Hospital of the King's Daughter |                     | Hospitals                                               |
| Norshipco                                  |                     | Transportation Equipment Manufacturing                  |
| Norfolk State University                   |                     | Educational Services                                    |
| Bank of America                            |                     | Credit Intermediation and Related Activities            |
| Eastern Virginia Medical School            |                     | Educational Services                                    |
| Portfolio Recovery Association             |                     | Administrative and Support Services                     |
| Wal-Mart                                   |                     | General Merchandise Stores                              |
| Bon Secours DePaul Medical Center          |                     | Hospitals                                               |
|                                            | <b>500 - 999</b>    |                                                         |
| Maersk Line Limited                        |                     | Water Transportation                                    |
| Tidewater Community College                |                     | Educational Services                                    |
| Sentara Health Management                  |                     | Insurance Carriers and Related Activities               |
| Virginia International Terminal            |                     | Support Activities for Transportation                   |
| Tidewater Wholesale Grocery                |                     | Merchant Wholesalers, Nondurable Goods                  |
| CMA-CGM (America), Inc.                    |                     | Support Activities for Transportation                   |
| McDonald's                                 |                     | Food Services                                           |
| ODU Research Foundation                    |                     | Professional, Scientific and Technical Services         |
| Personal Touch Home Care, Inc.             |                     | Ambulatory Health Care Services                         |
| Virginia Wesleyan College                  |                     | Educational Services                                    |
| Raytheon Technical Services                |                     | Professional, Scientific and Technical Services         |
| Colonna's Shipyard                         |                     | Transportation Equipment Manufacturing                  |
|                                            | <b>250 - 499</b>    |                                                         |
| Farm Fresh                                 |                     | Food and Beverage Stores                                |
| Metro Machine Corp.                        |                     | Transportation Equipment Manufacturing                  |
| Electronic Data Systems Corp               |                     | Internet Service Providers and Data Processing Services |
| Marine Hydraulics International            |                     | Transportation Equipment Manufacturing                  |
| Aramark Campus LLC                         |                     | Food Services and Drinking Places                       |
| ITT Educational Services, Inc.             |                     | Educational Services                                    |
| American Funds Service Company             |                     | Financial Investments                                   |
| The Virginian-Pilot                        |                     | Publishing Industries                                   |
| Food Lion                                  |                     | Food and Beverage Stores                                |
| United Services Automobile Association     |                     | Insurance Carriers and Related Activities               |
| Lake Taylor Hospital                       |                     | Nursing and Residential Care Facilities                 |
| United Express Airtran Jet Con             |                     | Air Transportation                                      |
| CP&O LLC                                   |                     | Support Activities for Transportation                   |
| Clark Nexsen Owen Barbieri                 |                     | Professional, Scientific and Technical Services         |
| Zim                                        |                     | Support Activities for Transportation                   |
| Soc LLC                                    |                     | Administrative and Support Services                     |
| MDT Personnel LLC                          |                     | Administrative and Support Services                     |
| Virginia Dominion Power                    |                     | Utilities                                               |
| Transit Management Company                 |                     | Transit and Ground Passenger Transportation             |
| FHC Options Inc.                           |                     | Insurance Carriers and Related Activities               |

Source: Virginia Employment Commission.

**Table D-14**  
**City of Norfolk, Virginia**  
**Business Growth**  
**A Sampling of Business Activity in 2008-2013**

| Company                             | Type                                                            | E/N | C/D/A | Investment<br>(mil) |
|-------------------------------------|-----------------------------------------------------------------|-----|-------|---------------------|
| 201 Twenty-One                      | Mixed-use residential apartments & retail                       | N   | C     | 40                  |
| Bauer Compressor Facility           | Expansion of existing Norfolk business                          | E   | A     | 15                  |
| Bay Village Condominiums            | Senior only residences                                          | N   | D     | 15                  |
| Belmont at Freemason                | Apartments                                                      | N   | C     | 45                  |
| Colonnas Shipyard                   | Expansion                                                       | E   | C     | 14                  |
| CMA CGM                             | Americas Headquarters, shipping line                            | E   | C     | 11.5                |
| Commander Corporate Center          | Second office building for spec                                 | N   | C     | 12                  |
| Court Complex                       | New combined Hall of Justice                                    | N   | D     | 123                 |
| Eastern Virginia Medical School     | New education and research building                             | N   | C     | 80                  |
| Fort Norfolk Plaza                  | Mixed-use medical office, retail                                | N   | C     | 70                  |
| Ghent Station                       | New medical space and retail                                    | N   | A     | 17.5                |
| Hampton Roads Barge Company         | New transportation/shipping company                             | N   | C     | 2.3                 |
| Harris Teeter Expansion             | Demolition of existing and construction of<br>new grocery store | E   | C     | 14                  |
| Harris Teeter                       | Construction of new store Wards Corner                          | N   | D     | 18                  |
| Hurrah Players                      | Theatre, dance, voice and acting troupe                         | N   | C     | 1.4                 |
| Kroc Center                         | Community center                                                | N   | D     | 84                  |
| Lamberts Point                      | Recreation facility                                             | N   | C     | 7.6                 |
| Light Rail                          | Starter Line                                                    | N   | C     | 338.3               |
| MacArthur Memorial                  | Expansion                                                       | E   | C     | 5                   |
| Marine Hydraulics                   | Expansion                                                       | E   | C     | 82                  |
| Norfolk State University (NSU)      | Library and student center                                      | N   | C     | 75                  |
| Norfolk International Terminals     | Central Rail Yard, phase I & II                                 | N   | C     | 26.4                |
| Norfolk International Terminals     | Renovation of the South Berth                                   | E   | C     | 275                 |
| Norfolk International Terminals     | North Gate relocation                                           | E   | C     | .85                 |
| Norfolk International Terminals     | Rail yard sound wall                                            | N   | C     | 1.5                 |
| Norfolk International Terminals     | Transfer Zone safety improvements                               | N   | C     | 2.5                 |
| Norfolk International Terminals     | Straddle carrier parking lot                                    | N   | D     | 3.5                 |
| Old Dominion University (ODU)       | Innovations Research Park II                                    | N   | C     | 22.5                |
| Old Dominion University (ODU)       | Student fitness center                                          | N   | C     | 28                  |
| Old Point National Bank             | New branch office in Ghent                                      | N   | C     | 2.8                 |
| P & P, LLC                          | Office/flex (4th building on site)                              | E   | D     | 1                   |
| Passenger Rail Facility             | Station for new Amtrak service                                  | N   | A     | 3.8                 |
| Residence Inn by Marriott           | Extended-stay hotel                                             | N   | C     | 35                  |
| Riverside Terrace / Westport        | Phasing townhouses and condominiums                             | N   | D     | 80                  |
| Sentara Offices                     | 48,000 sq ft office Poplar Halls                                | N   | D     | 9                   |
| Sentara Garage                      | Colley Avenue                                                   | N   | D     | 15                  |
| Sheraton Hotel                      | Renovation                                                      | E   | C     | 32                  |
| Slover Library                      | Construction of new main library                                | N   | D     | 64                  |
| SouthWind Apartment Community       | 120 apartments                                                  | N   | C     | 15                  |
| Tidewater Community College         | Student center                                                  | N   | C     | 17.6                |
| The Market at Ghent                 | Expansion to existing Farm Fresh store                          | E   | C     | 3                   |
| The River House Apartments          | 197 apartments                                                  | N   | C     | 36                  |
| Union Mission Building              | Renovation into 60+ apartments                                  | N   | A     | 22                  |
| Virginia Arts Festival Headquarters | Offices and rehearsal studios                                   | N   | C     | 7.5                 |
| Virginia Zoo                        | Animal Wellness Center                                          | E   | D     | 4.3                 |
| Wells Fargo Center                  | Mixed-use Class A office, retail<br>and residential             | N   | C     | 170                 |

Source: Economic Development Department, City of Norfolk, Virginia.

E/N – Expansion or New; C/D/A – Completed, Under Development or Announced

## **Military**

The presence of the military in Norfolk has a significant impact on the local economy. The City is the home of the world's largest naval complex, with headquarters for Commander in Chief of U.S. Atlantic Command, NATO's Supreme Allied Command Atlantic, Commander in Chief U.S. Atlantic Fleet and other major naval commands. Hampton Roads is the largest center of Coast Guard units in the world with the Atlantic Area Command and Maritime Defense Zone Atlantic in Portsmouth and its Maintenance & Logistic Command Atlantic headquarters in downtown Norfolk.

The U.S. Navy's direct economic impact on the region was \$14.9 billion in Fiscal Year 2011, comprised of a total annual payroll of \$8.6 billion and the balance consumed on goods and services and procurement contracts. The City expects to continue as a center of activity for the U.S. Navy with current total personnel (military and civilian) of nearly 70,000. There were 83,095 active-duty U.S. Navy military personnel in Hampton Roads in 2011, of which 59%, or 49,328, were assigned to Norfolk.

The Navy's newest local command, the Navy Reserve Forces Command, relocated to Norfolk from New Orleans in 2009. The Reserve Forces Command is the global headquarters for more than 68,000 reserve sailors and brought approximately 450 military and civilian employees to Hampton Roads. The Reserve Forces Command is responsible for readiness, oversight, manpower management, logistics, mobilization and training of reserve sailors.

On August 9, 2010, Defense Secretary Robert Gates announced a series of steps aimed at reducing overhead in the defense budget and redirecting the money saved to the war effort and preparation for future conflicts. Among his directives was the closure of the Joint Forces Command ("JFCOM") which is headquartered in Norfolk. JFCOM was disestablished in August 2011, with all related personnel moves completed in March 2012. About half of the JFCOM workforce was retained, including approximately 1,900 of the 3,800 employed in the Hampton Roads area. Of JFCOM's 21 buildings in Norfolk and Suffolk, four remain in use, including the Joint Warfighting Center in Suffolk and three other buildings in Norfolk. The majority of the military personnel were reassigned to other units within Norfolk and the region. The military, particularly the Navy, will remain a mainstay of the increasingly diversified southeastern Virginia economy.

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**SUMMARY OF WHOLESALE CONTRACTS**

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## **INTRODUCTION**

The City maintains wholesale contracts or water service agreements with Chesapeake, Virginia Beach, Portsmouth, the WTW and the Navy. These contracts and agreements set forth the amount of water to be sold, rate setting procedures, metering points, dispute resolution and other matters.

The descriptions of the contracts and agreements set forth below are brief outlines or summaries of certain of their provisions. Such outlines and summaries do not purport to be complete, and reference should be made to each respective contract or agreement. Copies of the contracts and agreements may be obtained from the City for a full and complete statement of their provisions.

Capitalized terms used and not defined in this Appendix E shall have the meanings given them in the applicable water service contract or agreement.

## **VIRGINIA BEACH, VIRGINIA**

The City of Norfolk ("Norfolk") and the City of Virginia Beach ("Virginia Beach") entered into a Water Services Contract originally dated July 14, 1993, and amended and restated as of February 14, 2001 (as amended and restated, the "Water Services Contract"). Capitalized terms used in this Appendix are defined in the Water Services Contract or in the Official Statement.

The Water Services Contract provides for Norfolk to store, wheel and treat Virginia Beach's Gaston and Stumpy Lake water (sometimes referred to herein as "Virginia Beach Water").

### **Term of Contract.**

The Water Services Contract is in effect until June 30, 2030, unless earlier terminated.

### **Water Treatment, Delivery Services and Obligations.**

Norfolk must receive and store Virginia Beach Water at locations satisfactory to both parties, transport the water through Norfolk's raw water system, treat the water, provide clear well storage, pump and transport the treated water to the metered points of delivery for the Virginia Beach Water distribution system, and perform all related acts to provide treated water to Virginia Beach. Virginia Beach must pay for these services and provide Virginia Beach Water. The Water Services Contract is a water services contract, not a contract for the sale of treated water, and the right of Virginia Beach to receive treated water under the Water Services Contract is dependent on Virginia Beach's ability to provide Virginia Beach Water, including, but not limited to, obtaining all necessary permits from governmental agencies, and constructing, operating and maintaining the Gaston pipeline, Stumpy Lake and Stumpy Lake pipeline providing Virginia Beach Water to discharge points satisfactory to Norfolk and Virginia Beach. Norfolk must obtain all permits required to construct, operate, maintain or expand Norfolk's water system in conjunction with performance of the Water Services Contract; provided, however, in obtaining or retaining any permit, Norfolk is only required to use its good faith best efforts by all reasonable legal means. Virginia Beach and Norfolk must cooperate and assist each other in obtaining the permits. Norfolk must also keep and maintain its water facilities in good working order in accordance with generally accepted standards for the operation and maintenance of a water system.

Except as otherwise provided in the Water Services Contract, Norfolk must deliver treated water to the Virginia Beach distribution system in such amounts as required by Virginia Beach, up to a total annual average amount of 45 mgd, but not to exceed 0.9 times the maximum sustainable rate of Gaston water which Virginia Beach is capable of delivering to Norfolk for Virginia Beach's use, plus 1.8 mgd for Stumpy Lake water. If the Stumpy Lake contract capacity increase option is exercised (as described under the caption "Effective Date" below), the maximum permissible total annual average amount stated above shall increase by 1.8 mgd to 46.8 mgd.

Virginia Beach is obligated to supply additional Virginia Beach Water above the Virginia Beach current monthly demand if requested by Norfolk, but is not required to supply an amount of Virginia Beach Water in any

consecutive 36-month period in excess of the amount of treated water delivered to Virginia Beach under the Water Services Contract during the same period adjusted for certain losses.

Norfolk is obligated to exercise due care and adhere to generally-accepted engineering practices in the planning, construction, operation, maintenance, and expansion of its water system in order to meet its obligations under the Water Services Contract. Norfolk may not use, sell, assign, or otherwise commit to supply water in excess of Norfolk's safe yield, transmission or treatment capacity except as otherwise provided in the Water Services Contract. Norfolk may sell water, pursuant to a written contract, in excess of its safe yield on an interruptible basis to industrial customers having installed and permitted alternate water sources available, with the consent of Virginia Beach, such consent not to be unreasonably withheld. Norfolk must terminate or restrict the supply of water to such interruptible customers (in accordance with the terms of each contract) in order that Norfolk can meet its obligations to Virginia Beach under the Water Services Contract.

#### **Delivery Points and Measurement.**

Norfolk must deliver treated water to Virginia Beach at the delivery points set forth in the Water Services Contract, and at such additional points as may be mutually agreed upon by the parties. Unless otherwise agreed by both parties, Norfolk must construct, own and maintain treated water meter vaults, meters, and all associated facilities located at the delivery points. Virginia Beach must provide Norfolk's employees and agents ingress and egress across property owned by Virginia Beach to all of Norfolk's premises inside Virginia Beach's boundaries to install, operate, inspect, test, and maintain pipelines, pump stations, and facilities, and to read meters owned or maintained by Norfolk within the city limits of Virginia Beach or on property controlled by Virginia Beach. Virginia Beach must install and operate raw water meter or meters capable of measuring the amount of water being delivered from the Gaston pipeline and the Stumpy Lake pipeline to Norfolk including totalizing and recording total flow and daily rates of flow. Each meter must be tested at least once every two years.

#### **Quality and Pressure of Water Delivered to Virginia Beach.**

Norfolk must provide the necessary water treatment facilities, operational practices and related services to ensure that the quality of treated water delivered to Virginia Beach pursuant to the Water Services Contract meets all potable water standards mandated by federal and state law, rule or regulation. Except as otherwise provided in the Water Services Contract, Virginia Beach bears the sole responsibility for maintaining water quality beyond the delivery points within the Virginia Beach distribution system.

#### **Rates and Charges.**

*Method of Rate Determination.* The annual rates charged by Norfolk for rendering treated water service under the terms of the Water Services Contract are based upon the utility basis of cost of service principles established by the American Water Works Association. Under such principles, Virginia Beach is charged for treated water service in a manner which recovers its allocable share of operation and maintenance expense, depreciation expense and return on rate base associated with the Norfolk water system.

*Operation and Maintenance Expense.* Virginia Beach must pay its share of annual expenses of the Norfolk water system, including appropriate departmental and city general overhead and payments in lieu of real estate and tangible personal property taxes, excluding payments to Norfolk's general fund and certain non-common payments.

*Depreciation Expense.* Virginia Beach must pay an annual depreciation expense associated with the Virginia Beach rate base, excluding construction work in progress.

*Return on Rate Base.* Virginia Beach must pay to Norfolk an annual return on the Virginia Beach rate base. The annual rate of return to be applied to the Virginia Beach rate base is computed by multiplying the embedded effective average annual interest cost of the Norfolk Utilities Department water system debt for the applicable rate year by 1.25.

*Rate Base.* The rate base for the purposes of the Water Services Contract is the original cost of the Norfolk water system less accrued depreciation (as shown on Norfolk's books and records). The rate base includes construction work in progress, expenditures which have been paid by Norfolk at the time of rate determination, and general facilities related to the Norfolk water system.

The rate base is allocated between Virginia Beach and Norfolk based on the contract allocation capacities and safe yield of Virginia Beach compared to the capacities of the Norfolk water system facilities serving Virginia Beach and the combined system safe yield. All facilities in the Norfolk water system providing service or benefit to Virginia Beach, including raw water supply, storage and transmission, treatment, pumping, storage, and treated water transmission mains, meters, and administrative and general facilities are included in the rate base subject to allocation to Virginia Beach. Excluded from the rate base subject to allocation to Virginia Beach are: fire hydrants; retail meters and services; all transmission and distribution facilities not used to serve Virginia Beach; and land, land rights and general plant related to excluded items; and certain contributed capital.

*Fixed Capacity Charge.* Virginia Beach must pay an annual fixed capacity charge sufficient to recover depreciation expense and the return on the Virginia Beach rate base. This fixed capacity charge is payable in equal monthly amounts during the year or years for which rates are applicable.

*Demand Charge.* Virginia Beach must pay an annual unit demand charge per mgd applied to the measured coincidental maximum hourly demand of Virginia Beach. The annual unit demand charge is based on the common to all operation and maintenance expense of the facilities providing service to Virginia Beach, excluding the energy portion of power costs, chemical costs, sludge disposal and other costs which vary directly with volume of treated water produced. The annual unit demand charge per mgd is 1.01 times the result of dividing the common to all operation and maintenance expense described in the preceding sentence by the sum of the Virginia Beach and Norfolk noncoincidental maximum hourly pumpage outputs at the Norfolk treatment plants providing service to Virginia Beach.

*Supplemental Demand Charge.* In the event that Virginia Beach's maximum hourly demand exceeds its contract hourly demand rate of 90 mgd, Virginia Beach must pay a supplemental demand charge for that portion of its maximum hourly demand which exceeds 90 mgd. The amount of the supplemental unit demand charge is equal to two (2) times the unit demand charge as determined in accordance with the formulas set forth above. If the Stumpy Lake contract capacity increase option is exercised (as described under the caption "*Effective Date*" below), the maximum hourly demand rate above shall be 93.6 mgd.

*Commodity Charge.* Virginia Beach must pay a commodity rate per 1,000 gallons of treated water. This charge is sufficient to recover the energy portion of power costs, chemical costs, sludge disposal, and other costs which vary directly with the volume of treated water produced. The Virginia Beach commodity charge is 1.01 times the amount determined by dividing the total variable cost described in the preceding sentence for the Norfolk water treatment plants providing service to Virginia Beach by the total treated water volume output of such Norfolk water treatment plants, in thousands of gallons.

*Biennial Adjustment of Rates.* Norfolk is obligated to develop projections of rates applicable to Virginia Beach for treated water service on a biennial basis based on a cost of service study prepared by an independent consulting firm. The projections of rates, along with a copy of the cost of service study, must be submitted to Virginia Beach not less than 120 days prior to the beginning of the two year period. Virginia Beach will be billed monthly for treated water service by Norfolk using the projected rates applicable to water use beginning with the first day of the applicable Fiscal Year and for the remainder of the two Fiscal Years. Such projections of rates, however, may be revised at any time, upon 60 days' advance notice, during the two Fiscal Years by Norfolk should unexpected significant increases or decreases in Virginia Beach's allocated portion of Norfolk's water system costs occur during the Fiscal Years; however, Norfolk may not adjust Virginia Beach's rates more than once during the two year period unless it also adjusts rates to its own retail customers.

Within six months after the end of the second Fiscal Year, Norfolk must complete and submit to Virginia Beach a true-up schedule of rates and annual billings applicable to the previous two Fiscal Years which reflects an allocation of costs of service based on actual cost and experience incurred by the Norfolk water system as shown in the audited books and records of Norfolk. The February, 2001, amendments to the amended and restated water

services contract clarified the contract's methodology as to cost of service and true-up adjustments. Any resulting credits or payments applicable to treated water service resulting from a true-up shall be divided into twelve equal payments or credits to be paid or applied during the second Fiscal Year.

#### **Source and Priority of Payments.**

*Source of Payment.* Virginia Beach must make payments of all charges for treated water service, as well as charges upon termination of the Water Services Contract (the "termination payments") and any other charges payable under the Water Services Contract, solely from revenues received by Virginia Beach from charges paid by users of its water and sewer system and available to it for such purposes for so long as Virginia Beach operates its water and sewer system on a combined basis; provided, however, if Virginia Beach chooses to operate its water system separate and apart from its sewer system, then such charges must be paid solely from revenues of its water system. The charges payable under the Water Services Contract are not deemed to create or constitute an indebtedness or a pledge of the faith and credit of the Commonwealth or of any county, city, town or other political subdivision thereof, including Virginia Beach, for purposes of any constitutional, statutory or charter limitations.

*Characterization of Charges under the Water Services Contract.* The demand charge, supplemental demand charge, commodity charge, fixed capacity charge and termination payments are deemed to be a part of the annual operating expense of the Virginia Beach water and sewer system, or the water system, as applicable.

Except as described in the following paragraph, the demand charge, supplemental demand charge, commodity charge, fixed capacity charge and termination payments must be paid prior to the debt service on any water and sewer revenue bonds or double barrel bonds of Virginia Beach.

The payment of the fixed capacity charge is on parity with the payment of debt service on certain bonds of Virginia Beach. The payment of the termination payments is subordinate to the payment of debt service on such bonds.

Other than as described above, Virginia Beach will not issue any water and sewer revenue bonds or double barrel bonds as long as the Water Services Contract is in full force and effect (including (i) certain refunding bonds and (ii) revenue or general obligation bonds, the proceeds of which finance the cost of termination payments), the debt service on which will be payable prior to or on parity with Virginia Beach's payment obligations under the Water Services Contract (*i.e.*, the demand charge, supplemental demand charge, commodity charge, fixed capacity charge and termination payments). Virginia Beach may not amend or supplement its Master Bond Resolution or enter into any successor indenture, trust agreement or resolution pledging the revenues of its water and sewer system, or its water system, as applicable, in such a way that will subordinate or adversely affect the pledge or the dignity thereof securing its payment obligations under the Water Services Contract (including the termination payments), without the written consent of Norfolk.

*Issuance of Bonds.* Virginia Beach retains the right under the Water Services Contract to issue either its revenue or general obligation bonds, the proceeds of which will finance the costs of making the termination payments. The determination as to whether to issue such bonds is within the complete control of Virginia Beach.

*Rate Covenant.* Virginia Beach must fix, charge and collect such rates, fees and other charges for the use of and for the services furnished by its water and sewer system, or its water system, as applicable, and must from time to time and as often as shall appear necessary, revise such rates, fees and other charges so that revenues received from its water and sewer or its water system, as appropriate, will be sufficient in each year to pay all amounts due under the Water Services Contract and all other operation and maintenance expenses of its water and sewer system, or its water system, as applicable.

#### **Reduced Water Usage By Virginia Beach.**

If Virginia Beach receives reduced quantities of treated water from Norfolk because Virginia Beach has developed or acquired additional treated water supplies, Virginia Beach must for the duration of the Water Services Contract pay the annual fixed capacity charge, and the commodity rate for the actual treated water delivered to

Virginia Beach. In addition, for a period of three years, Virginia Beach must pay the annual demand charge applied to the greater of its hourly demand for the year or the highest maximum hourly demand experienced during the five (5) years immediately preceding the reduction.

#### **Curtailment.**

The parties acknowledge in the Water Services Contract that supply or treatment problems may occur which prevent or limit Norfolk's ability to deliver treated water to Virginia Beach and/or Norfolk's other treated water customers. In the event that the conditions which prevent or limit Norfolk's ability to deliver treated water to Virginia Beach are applicable to other of Norfolk's customers, Norfolk must seek and, to the extent permitted by federal and state laws and regulations and national security constraints as declared by an official of the United States, enforce the imposition of treated water curtailment upon all affected customers, retail, wholesale or otherwise, in order that all such treated water customers will be similarly affected. If water supplies or services are curtailed in accordance with the procedures set forth above, Virginia Beach and Norfolk are obligated to cooperate by imposing conservation measures upon their respective customers. Neither Norfolk nor Virginia Beach are required to impose curtailments of water supply which would violate any requirements imposed by the State Water Control Board and other state and federal agencies and laws.

#### **Force Majeure and Hold Harmless.**

Norfolk is not liable to Virginia Beach for any act, omission, or circumstances occasioned by or in consequence of any act of God, strikes, lockouts, acts of the public enemy, wars, etc.

In case of breaks in the mains, or malfunction of pumping machinery, or other water works equipment, or the occurrence of any other event which makes it necessary temporarily to reduce pressure or cease delivery of water to Virginia Beach, Norfolk must, if practicable, give previous notice of one week. In no case may any claim for damage due to reduced water service or pressure be made by Virginia Beach, and Virginia Beach must hold Norfolk harmless from any third-party suit arising from, or related to, reduced water service or pressure on the Virginia Beach distribution system unless Norfolk's negligence was the cause of the reduced water service or pressure.

Virginia Beach must hold harmless and indemnify Norfolk against any claims or losses arising from receipt of Virginia Beach Water by Norfolk or delivery by Norfolk of treated water to Virginia Beach, unless Norfolk's negligence or failure to comply with its water quality obligations was the cause of the damage which gave rise to the claim or loss.

#### **Stumpy Lake Contract Capacity Increase.**

By reason of Virginia Beach's acquisition of Stumpy Lake, Virginia Beach may desire to request an increase of the Virginia Beach contract capacities provided for in the Water Services Contract, from an annual average day rate of 45 mgd to 46.8 mgd, a maximum day rate of 67.5 mgd to 70.2 mgd, and a maximum hour rate of 90 mgd to 93.6 mgd. Norfolk, in its sole opinion, shall determine whether existing uncommitted constructed capacity exists in Norfolk facilities capable of meeting any of such additional contract capacities. Upon affirmative notice by Norfolk of such existing uncommitted constructed capacity, the increased contract capacities shall become effective on July 1 of the following year.

### **Breaches Related to Treated Water Safe Yield.**

If Virginia Beach's treated water average day demand (measured at the metering points) exceeds the lesser of 45 mgd or 99.0% of its treated water safe yield, Virginia Beach must reduce its treated water usage such that it does not exceed the lesser of 45 mgd or 99.0% of its treated water safe yield. In such event, Virginia Beach must institute adequate measures to ensure that its demand does not exceed the lesser of 45 mgd or 99.0% of its treated water safe yield. In addition, in such event, Norfolk may restrict the amount of treated water Virginia Beach may receive to ensure that the usage of Virginia Beach does not exceed the lesser of 45 mgd or 99.0% of its treated water safe yield. If the Stumpy Lake contract capacity increase option is exercised, Virginia Beach's maximum permissible annual average day demand of 45 mgd shall be 46.8 mgd.

If the Virginia Beach average day demand (measured at the metering points) exceeds the lesser of 45 mgd or 99.0% of its treated water safe yield, for a Fiscal Year, then Virginia Beach must pay a supplemental charge for all usage above the lesser of 45 mgd or 99.0% of its treated water safe yield in addition to all other charges provided in the Water Services Contract. The supplemental charge is the rate of \$4.00 per 1,000 gallons multiplied by the sum of 1 plus .05 times the number of years since 1990. If the Stumpy Lake contract capacity increase option is exercised, Virginia Beach's maximum permissible annual average day demand of 45 mgd shall be 46.8 mgd.

If the combined treated water average day demand of Norfolk and all of its treated water customers (measured at the treatment plants), excluding Virginia Beach and any other customers for which and to the extent that Norfolk wheels and treats raw water (adjusted for losses), exceeds Norfolk's treated water safe yield, then Norfolk must reduce its usage and that of its treated water customers, other than Virginia Beach and any other customers for which and to the extent that Norfolk wheels and treats their raw water (adjusted for losses), such that their combined treated water usage does not exceed Norfolk's treated water safe yield. In addition, in such event, Norfolk must at the request of Virginia Beach, to the extent permitted by federal and state laws and regulations and national security constraints as declared by an official of the United States, restrict the amount of treated water that Norfolk and its customers may receive to ensure that the combined usage of Norfolk and its customers (excluding Virginia Beach and any other customers for which and to the extent that Norfolk wheels and treats their raw water (adjusted for losses)) does not exceed Norfolk's treated water safe yield.

If the combined treated water average day demand of Norfolk and its customers (excluding Virginia Beach, any other customers for which and to the extent that Norfolk wheels and treats raw water, adjusted for losses, and interruptible) at the treatment plants exceeds Norfolk's treated water safe yield for a Fiscal Year, then it must pay a supplemental charge to Virginia Beach for all use above Norfolk's treated water safe yield. The supplemental charge is equal to \$4.00 per 1,000 gallons multiplied by the sum of 1 plus .05 times the number of years since 1990.

### **Breaches Related to Contract Capacities.**

If Virginia Beach's average day, maximum day or maximum hour demand exceeds the capacities contracted for and set forth in the Water Services Contract, then Virginia Beach must reduce its treated water demands to the average day, maximum day, and maximum hour capacities for which it has contracted in the Water Services Contract. To ensure that the necessary reductions do occur, Virginia Beach must institute adequate conservation measures. In addition, in such event, Norfolk may restrict the rate at which Virginia Beach may receive water to ensure that the demands of Virginia Beach do not exceed the average day, maximum day, or maximum hour capacities for which Virginia Beach has contracted.

### **Other Breaches.**

If either party breaches any term of the Water Services Contract, the other party must give written notice of the breach, identifying the provision(s) of the Water Services Contract which are being breached. The breaching party has six months from the date of the notice within which to cure the breach. In the event the breach remains uncured for six months, then the breaching party must pay to the other, for each 30 days or portion thereof the breach remains uncured, in addition to all other payments due under the Water Services Contract, an amount, beginning with the seventh month, equal to 10% of the total charge for water on a monthly basis due by the City of Virginia Beach to Norfolk. This 10% amount increases to 50% should the breach remain uncured for an uninterrupted period of twelve months. However, no payment is required so long as the party in breach makes a

continuous, good faith effort to cure the breach. These provisions of the Water Services Contract do not apply to the conditions, breaches and circumstances with respect to rates and charges or breaches related to treated water safe yield.

#### **Termination by Norfolk.**

Norfolk may terminate the Water Services Contract if one of the following events occurs:

(a) The Gaston pipeline is not 50% complete by June 30, 1998, with (i) all permits and approvals still in force for the construction in progress and (ii) all permits and approvals necessary to withdraw water from Lake Gaston and have the pipeline fully operational.

(b) The Gaston pipeline is not 100% complete and fully operational by June 30, 2000, with all permits and approvals still in force.

(c) Virginia Beach does not give authorization for the construction of the Plant Hydraulic Improvements prior to January 1, 1997.

(d) Virginia Beach does not pay in full a statement within 120 days of receipt unless the unpaid portion of such statement has been submitted to the dispute resolution process set forth in the Water Services Contract.

(e) Virginia Beach has a total and permanent loss of ability to deliver Virginia Beach Water to Norfolk, including, but not limited to, equipment failure or destruction, or the loss of any required permit, approval, or authority. Such loss is deemed permanent if it continues for twenty-four consecutive months.

(f) Virginia Beach willfully and continuously breaches any term of the Water Services Contract which significantly affects the operation of the Water Services Contract.

Upon termination of the Water Services Contract by Norfolk after the Gaston Pipeline is fully operational, Virginia Beach may receive water from Norfolk (in amounts to be determined by Norfolk) for three years after the effective date of termination, if Norfolk has sufficient surplus water available, provided, however, if there is a then existing surplus water contract between Norfolk and Virginia Beach, then the terms of the surplus water contract govern. Virginia Beach must pay for all such surplus water at a rate equal to two times the sum of the charges which would be applicable under the Water Services Contract. Except as described in this paragraph, Virginia Beach is not entitled to receive any water under the terms of the Water Services Contract after the effective date of termination of the Water Services Contract.

If Virginia Beach receives water from Norfolk which is not provided for under the terms of the Water Services Contract or another written contract between the parties, Virginia Beach must pay for all such water received at a rate equal to three times the sum of the charges which would be applicable under the Water Services Contract.

In the event that the Water Services Contract was terminated by Norfolk prior to the date that Virginia Beach received services under the Water Services Contract and prior to the date Virginia Beach authorized the construction of the Plant Hydraulic Improvements, Virginia Beach was obligated to make certain payments to Norfolk as if Virginia Beach had terminated the Water Services Contract. In the event that the Water Services Contract was terminated by Norfolk prior to the date that Virginia Beach received services under the Water Services Contract and after the date Virginia Beach authorized the construction of the Plant Hydraulic Improvements, Virginia Beach was obligated to make certain other payments to Norfolk as if Virginia Beach had terminated the Water Services Contract. In the event that the Water Services Contract was terminated by Norfolk, after the date that Virginia Beach received services under the Water Services Contract, or by Virginia Beach, Virginia Beach was obligated to pay to Norfolk an amount equal to the rate base allocated to Virginia Beach under the most recent cost of service study, provided such facilities are not necessary for Norfolk to provide service to Norfolk or customers of Norfolk with contracts for the sale of water, including Virginia Beach.

### **Termination by Virginia Beach.**

Virginia Beach had the option to terminate the Water Services Contract at any time prior to authorizing construction of the Plant Hydraulic Improvements by providing written notice. Virginia Beach also had the option to terminate the Water Services Contract at any time after notifying Norfolk to proceed with the Plant Hydraulic Improvements and prior to receiving services pursuant to the Water Services Contract, if Virginia Beach believes that the Gaston pipeline will not become fully operational.

The preceding termination rights have expired due to the commencement of construction of the Plant Hydraulic Improvements and the completion of the Gaston pipeline. Except as otherwise provided in the preceding paragraph, Virginia Beach may terminate the Water Services Contract if one of the following events occurs:

(a) Norfolk has a permanent and total loss of ability to wheel and treat Gaston water for 24 consecutive months.

(b) Norfolk willfully and continuously breaches any term of the Water Services Contract which significantly affects the operation of the Water Services Contract.

(c) Virginia Beach has a total and permanent loss of ability to deliver Gaston water to Norfolk, including, but not limited, equipment failure or destruction, or the loss of any required permit, approval or authority. Such loss is deemed permanent if it continues for 24 consecutive months.

Upon the effective date of termination by Virginia Beach other than for events specified in subparagraph (c) above, Virginia Beach has no further obligations or responsibilities to Norfolk under the Water Services Contract except to pay any outstanding amounts due for service provided under the Water Services Contract.

### **UNITED STATES DEPARTMENT OF THE NAVY**

In 1981, the City entered into a utility service contract for water service with the Navy for the delivery of water to the gates of the various Navy installations located in the City and outside the City. The contract was modified effective July 1, 2003, to establish treated water rates applicable to the Naval facilities located in Norfolk and Virginia Beach. The current rate, which is Norfolk's retail rate plus 10%, is \$4.57/ccf. The current multi-month contract expires on March 30, 2013, and was entered into while the City and the Navy negotiate an extension to the water service contract. Should the contract expire, the City has an ordinance in place to sell water to wholesale military customers at a rate of \$4.57/ccf, annually increasing 3.5% thereafter. Sales to the Navy averaged 4.0 mgd for Fiscal Year 2012, which represents approximately 7.2% of the total metered water consumption of the Water System.

### **Rates and Charges.**

The Navy agreed to pay the rates ranging from \$3.04/ccf to \$4.57/ccf Fiscal Years 2004 through 2013 for treated water delivered to the point of delivery as contained in the Water Services Specifications (as defined in the contract) during the term of the contract.

The rates set forth above are the amended rates applied to the actual amount of water delivered to the points of delivery. In 2003, the contract with the Navy was amended so that the Navy rate is the City retail water rate plus 10%. Since the payment for services is now based on the established retail rate, there will be no future adjustments to the rate based on a true-up cost of service study. The current contract expires March 30, 2013.

Prior to the contract modification with the Navy, the City's contract required a biennial true-up of rates. The Defense Contract Audit Agency ("DCAA") completed the Fiscal Year 2002/Fiscal Year 2003 True-Up in March 2006. The water charge for the Fiscal Year 2002/Fiscal Year 2003 True-Up period was \$3.9 million. In May 2007, the City of Norfolk offered a settlement amount of \$1.9 million. The Navy had requested that the City apply the 2004 fixed rates and had claimed that \$3,500,000 be rebated as a result of the application of the 2004 rates. The City reviewed the claim of the Navy and believed that the claim was without merit. On March 12, 2008, an agreement



was reached and the Navy accepted the City's \$1.9 million settlement. The City has since repaid the Navy \$1.9 million in full in monthly installments of \$53,333.33 over a thirty-six month period commencing July 2008.

#### **Disputes Clause.**

The contract is subject to the Contract Disputes Act of 1978 (the "Disputes Act"). Except as provided in the Disputes Act, all disputes arising out of the contract shall be resolved as specified in the contract. The Contracting Officer's decision will be final unless appealed by the City or a suit is filed by the City as provided in the Disputes Act.

In the event of a disagreement, the City shall continue to provide water service and the Navy shall continue to pay the City at the then existing rate. After a determination of the final rates, the Navy shall promptly pay from that point forward such rates that are determined to be just and reasonable.

### **CITY OF PORTSMOUTH, VIRGINIA**

In October 2002, the City entered into a contract with Portsmouth for sale of emergency raw water. The Contract was amended in September 2007 and again in November 2008, in each case to increase the rates paid by Portsmouth under the Contract. Portsmouth has constructed and tested the necessary improvements to convey raw water to its reservoirs.

#### **Delivery Point, Plan, Construction and Operation.**

Portsmouth financed, designed, constructed and operates the Raw Water Delivery System pursuant to the Contract. In September 2004, the City provided Portsmouth written approval and acceptance of the Raw Water Delivery System after assurance was received that the improvements provide proper and safe integration with the City's Water System. According to the contract, the City shall endeavor to deliver and sell to Portsmouth up to 10 mgd of temporary surplus raw water.

#### **Delivery and Sale of Temporary Surplus Raw Water.**

Following the Portsmouth Start-up Date, the City shall endeavor to deliver and sell to Portsmouth up to 10 mgd of Temporary Surplus Raw Water. Temporary Surplus Raw Water means the difference between the Safe Yield of the City's Water System after adjusting for losses, and the total of (i) the amount of raw water required to supply the persons and entities in the City with treated water, (ii) the amount of raw water required to supply raw and treated water to the City's United States government customers and (iii) the amount of raw water required to supply raw and treated water to the City's other existing and future customers under fixed term contracts.

#### **Water Rates and Charges.**

The rate of the Temporary Surplus Raw Water sold pursuant to the contract in Fiscal Year 2013 is \$1.21 per thousand gallons of Temporary Surplus Raw Water delivered to the Delivery Point, subject on July 1 of each year to an adjustment based on the CPI Adjustment Factor; provided, however, in no event shall the rate decrease from the previous Fiscal Year.

#### **Term of Contract.**

The contract shall continue to be in effect until either party, on 10 days' written notice, terminates the contract.

### **CITY OF CHESAPEAKE, VIRGINIA**

In December 2002, the City entered in to a raw water sales contract with Chesapeake for the sale of surplus raw water. The contract specifies the terms and conditions of the sale of raw water, rates, termination provisions and

dispute resolution. Raw water sales to Chesapeake averaged 7.2 mgd in Fiscal Year 2012 which represents approximately 12% of the Water System's total metered water consumption.

#### **Term of Contract.**

The contract is for a term beginning January 1, 2003, and ending December 31, 2042. Pursuant to the contract, the City began service to Chesapeake as of July 1, 2006 (the "Chesapeake Start-up Date").

#### **Delivery and Sale of Surplus Raw Water.**

Upon and following the Chesapeake Start-up Date, the City agrees to sell and deliver to Chesapeake and Chesapeake agrees to accept the Target Amount transmitted to the extent practical at a uniform flow rate. The initial Target Amount shall be seven mgd.

In the event that the metered amount of Surplus Raw Water delivered in a Billing Month is less than the Target Amount multiplied by the number of days in the Billing Month (the difference being a "Shortfall"), Chesapeake may request, in addition to the Target Amount, that an amount up to such Shortfall be delivered in subsequent Billing Months.

Chesapeake may request to temporarily or permanently increase the Target Amount. If the City determines that it can satisfy such request, the City at its sole discretion, may agree to increase the Target Amount accordingly. Chesapeake may request to temporarily decrease the Target Amount and, upon agreement by the City, the Target Amount shall be decreased.

#### **Water Rates and Charges.**

The initial Water Rate was ninety-five cents (\$0.95) per thousand gallons of Surplus Raw Water sold, which rate was effective through June 30, 2003. Beginning on July 1, 2003, and upon each July 1 thereafter, the Water Rate is adjusted by multiplying the Water Rate by the greater of (i) the CPI Adjustment Factor or (ii) 100%. In no event shall the Water Rate decrease.

Chesapeake shall make monthly payments for the metered amount of Surplus Raw Water delivered. Chesapeake's monthly payment shall equal the Target Amount, which is seven mgd, multiplied by the number of days in the Billing Month unless, (i) Chesapeake and Norfolk have agreed to decrease the Target Amount, in which case such decreased Target Amount shall be used in such calculation; (ii) the average daily flow for a billing month exceeds 0.75 mgd over the sum of the Target Amount plus the average daily volume of Shortfall, in which case Chesapeake's monthly payment for such month shall equal the sum of the Target Amount, plus the average daily volume of Shortfall delivered, plus 0.75 mgd multiplied by the number of days in that Billing Month; and (iii) the amount of Shortfall delivered in any Billing Month shall be included in the total volume of Surplus Raw Water delivered for the calculation of that Billing Month's monthly payment; provided, however, that the Water Rate charged for any amount of delivered Shortfall shall be the Water Rate in effect for the Billing Month during which such Shortfall was initially determined.

#### **Reductions and Curtailments.**

The City may reduce the Target Amount of Surplus Raw Water delivered to Chesapeake only if one or more of the following conditions occur:

- (i) decrease in Surplus Water Supply;
- (ii) facility or equipment failure;
- (iii) drought;
- (iv) contamination; and

- (v) force majeure.

**Termination by the City.**

The City may terminate the contract if one or more of the following events of default occurs: (i) Chesapeake does not pay in full within 60 days from the date of receipt of an invoice, (ii) Chesapeake has willfully breached the terms of the contract which significantly affects the operation of the contract, or (iii) construction of the Raw Water Delivery System is not fully complete within five years of the established Start-up date of July 1, 2006.

**Termination by Chesapeake.**

Chesapeake may terminate the contract if: (i) the City has willfully breached any term of the contract which significantly affects the operation of the contract or (ii) the City delivers less than the difference of the Target Amount minus 0.75 mgd for more than six consecutive Billing Months.

**Pre-existing Surplus Treated Water Purchase Arrangement.**

Chesapeake has been purchasing surplus treated water from the City for over 30 years. No term of the raw water contract shall reduce or waive either party's rights or obligations regarding the City's sale to Chesapeake of surplus treated water. As part of the raw water contract, the City agrees to continue selling and Chesapeake agrees to continue purchasing no less than two mgd of surplus treated water as long as the raw water sales contract is effective.

**WESTERN TIDEWATER WATER AUTHORITY**

In September 2009, the City entered in to a raw water sales contract with the Western Tidewater Water Authority ("WTWA") and Suffolk and Isle of Wight, the members of WTWA, for the sale of available surplus raw water supply to WTWA. The contract specifies the terms and conditions of the sale of raw water, rates, termination provisions and dispute resolution.

The contract is a "take or pay" contract, requiring the City to make available the Contract Amounts, which are the Average Day Amounts, the Maximum Month Amounts and the Maximum Day Amounts specified in the contract, and WTWA to pay for those Contract Amounts, regardless of actual consumption.

**Term of Contract.**

The contract is for a term beginning September 29, 2009, and ending June 30, 2048. Pursuant to the contract, the City will begin service to WTWA on the earlier of (i) the day on which water begins to flow to the Delivery Point(s) based on a determination by the City and WTWA that the Raw Water Delivery System is operational and capable of delivering the amounts required by the contract or (ii) February 1, 2014 (the "WTWA Start-up Date").

**Delivery and Sale of Surplus Raw Water.**

Upon and following the WTWA Start-up Date, the City agrees to sell and deliver to WTWA and WTWA agrees to purchase water in accordance with the Contract Amounts set forth in the contract. WTWA shall not be obligated to take delivery of the entire Contract Amounts.

Should WTWA request delivery of water in excess of the Maximum Day, Maximum Month and/or Average Day Amounts, other than water for a WTWA Emergency, at the City's sole discretion, the Contract Amounts may be adjusted to meet the request. At the end of any Fiscal Year during which Contract Amounts have been adjusted, the City may, in its sole discretion, determine that the Contract Amounts will remain at such increased amounts for the following Fiscal Year or revert to the Contract Amounts set forth in the contract. In no event shall the Contract Amounts exceed the highest Contract Amount set forth in the contract.

WTWA may request permanent acceleration of the Contract Amounts. The City is required to comply with such request unless (i) water is unavailable due to a temporary water sales contract in effect, (ii) the facilities and/or water resources necessary to provide additional water cannot be made available, or (iii) the Contract Amounts have been reduced due to reduction in the City's Safe Yield under the contract.

WTWA may request raw water to meet a bona fide WTWA Emergency. If the City determines that additional water is available, taking into consideration the City's other existing demands, the City may, in its sole discretion, deliver the water to WTWA. The supply of water to meet a WTWA Emergency shall not be used to determine whether Contract Amounts have been exceeded or to reduce the Reservation Amount or Reservation Fee set forth in the contract.

### **Water Rates and Charges.**

*Water Rates.* The initial Water Rate was one dollar and eleven cents (\$1.11) per thousand gallons, which rate was effective through July 1, 2009. Beginning on July 1, 2009, and upon each July 1 thereafter, the Water Rate is adjusted by multiplying the Water Rate by the CPI Adjustment Factor. In no event shall the Water Rate decrease from the previous Fiscal Year.

For the period from July 1, 2008 until the WTWA Start-Up Date, WTWA shall pay the City the Monthly Water Payment Amount without regard to whether water is available to be delivered. On and after the WTWA Start-Up Date, WTWA shall pay Norfolk the Monthly Water Payment Amount, subject to certain adjustments provided for in the contract.

*Reservation Fee.* Pursuant to the contract, WTWA shall pay a Monthly Reservation Fee. The Monthly Reservation Fee shall be calculated by multiplying the Reservation Amount set forth in the contract by the percentages specified in the contract. For the period from January 1, 2011 through the WTWA Start-Up Date, the percentage used to calculate the Monthly Reservation Fee is 20% and thereafter it is 25%.

### **Plan, Construction and Operations.**

The Raw Water Delivery System is broken into the WTWA Portion of Plan and the Norfolk Portion of Plan. Both WTWA and the City are responsible for the planning, bidding, construction and testing of their respective portions of the Raw Water Delivery System in accordance with the construction protocol set forth in the contract.

The City shall be under no obligation to deliver water to WTWA by the WTWA Start-Up Date and WTWA shall be under no obligation to pay any amounts that would be required after the WTWA Start-Up Date if the Raw Water Delivery System cannot be completed by such date due to the failure of the other party to timely (i) design, bid and/or construct its respective Portion of the Plan, (ii) review the design, bids and/or contracts for the other party's Portion of the Plan, (iii) test the Raw Water Delivery System, (iv) make modifications for failure of the Raw Water Delivery System to conform to the Plan or necessitated by adverse impacts to the Water System shown after testing. Additionally, the City shall be under no obligation to deliver water to WTWA by the WTWA Start-Up Date if WTWA fails to reimburse the City for the City's Capital Costs as provided in the contract.

Following construction of the Raw Water Delivery System, each party is solely responsible for the operation and maintenance of its respective Portion of Plan.

### **Reductions and Curtailments.**

The City's obligation to provide the full Contract Amounts shall be excused, either partially or wholly, only if one or more of the following conditions occur:

- (i) decrease in the amount of Surplus Raw Water available;
- (ii) facility or equipment failure;

- (iii) drought; and
- (iv) force majeure.

Upon WTWA's request, the City may in its sole discretion make up the delivery shortfall (or a portion thereof) by delivering additional water. If the City does not deliver additional water, WTWA shall be entitled to a credit for such delivery shortfall at the end of the applicable Fiscal Year.

**Termination by the City.**

The City may terminate the contract if: (i) WTWA does not pay in full within 60 days from the date of a receipt of an invoice, or (ii) WTWA, Suffolk or Isle of Wight has breached any other term of the contract.

**Termination by WTWA.**

WTWA may terminate the contract if: (i) the City does not deliver water in the amounts requested and when requested by WTWA as provided in the contract except as excused under the contract and in the event of a minor variance managed in accordance with the contract, or (ii) the City has breached any other term of the contract.

**Guarantee by Suffolk and Isle of Wight.**

In consideration of the City agreeing to the terms of the contract, Suffolk and Isle of Wight guarantee the payment obligations of WTWA under the contract, to the extent permitted by law and to the extent that any such guarantee is not deemed to be debt pursuant to the Constitution of Virginia. The guarantee is initially apportioned 75% to Suffolk and 25% to Isle of Wight. The apportionment may be adjusted by Suffolk and Isle of Wight upon joint notice to the City of such reapportionment.

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## **APPENDIX F**

### **FORM OF CONTINUING DISCLOSURE AGREEMENT**

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## CONTINUING DISCLOSURE AGREEMENT

This Continuing Disclosure Agreement (the "Disclosure Agreement") is executed and delivered as of February 20, 2013 (the "Closing Date"), by the City of Norfolk, Virginia (the "City"), in connection with the issuance by the City of its \$43,070,000 Water Revenue Bonds, Series 2013 (the "2013 Bonds"), pursuant to Ordinance No. 44,927 adopted by the City Council of the City on December 11, 2012 (the "Ordinance"), and pursuant to a Master Indenture of Trust dated as of November 1, 1993, as previously supplemented and amended (the "Master Indenture"), between the City and U.S. Bank National Association as successor trustee (the "Trustee"), as further supplemented by a Tenth Supplemental Indenture of Trust dated as of February 1, 2013, between the City and the Trustee (collectively, the "Indenture"). The proceeds of the 2013 Bonds are being used by the City, together with other available funds, to (i) finance certain costs of acquiring, constructing and equipping capital improvements to the City's water system, and (ii) pay the underwriter's discount and the costs of issuance of the 2013 Bonds. Pursuant to the Ordinance, the City approved the offering and sale of the 2013 Bonds to the public pursuant to an Official Statement relating to the 2013 Bonds, dated February 11, 2013 (the "Official Statement"). The City has determined that it constitutes an "obligated person" within the meaning of the Rule, as hereinafter defined, with respect to the 2013 Bonds and, accordingly, hereby represents, covenants and agrees as follows:

**Section 1. Purpose of the Disclosure Agreement; Representation.** This Disclosure Agreement is being executed and delivered by the City for the benefit of the Holders, as hereinafter defined, and in order to assist the Participating Underwriters, as hereinafter defined, in complying with the Rule. The City acknowledges that it is undertaking primary responsibility for any reports, notices or disclosures that may be required under this Disclosure Agreement.

**Section 2. Definitions.** In addition to the definitions set forth elsewhere in this Disclosure Agreement, the following capitalized terms shall have the following meanings:

"Annual Financial Information" with respect to any Fiscal Year of the City means the following:

- (i) the financial statements (consisting of at least a statement of net assets, a statement of cash flows and a statement of revenues, expenses and changes in fund net assets and thereafter a statement of net assets, a statement of cash flows and a statement of revenues, expenses and changes in fund net assets) of the City's Water Utility Fund, which (A) are prepared annually in accordance with generally accepted accounting principles in effect from time to time consistently applied (provided that nothing in this Disclosure Agreement will prohibit the City after the date of the Official Statement from changing such principles so as to comply with generally accepted accounting principles as then in effect or to comply with a change in applicable Virginia law); and (B) are audited by an independent certified public accountant or firm of such accountants in accordance with generally accepted auditing standards as in effect from time to time; and

(ii) updates of the operating data contained in the following sections and subsections of the Official Statement entitled: (a) "THE SYSTEM" -- "Customer Base" (but only with respect to Table 1, Average Daily Metered Consumption); and (b) "FINANCIAL MANAGEMENT" -- "Water Rates" (but only with respect to Table 10, Retail Customers' Average Annual Costs Norfolk Retail, Table 11, Wholesale Customers' Average Annual Costs Virginia Beach, Table 12, Wholesale Customers' Average Annual Costs U.S. Navy, including Norfolk and Virginia Beach Facilities and Table 13, Wholesale Customers' Average Annual Costs Chesapeake) and "Budget Process" (but only with respect to Table 16, Water Utility Fund Annual Budget for the two most recent Fiscal Years). All of the operating data to be provided pursuant to this subparagraph may be presented in the form of tables.

"Dissemination Agent" shall mean the City, acting in its capacity as Dissemination Agent hereunder, or any successor Dissemination Agent designated in writing by the City and which has filed with the City a written acceptance of such designation.

"Fiscal Year" shall mean the twelve-month period, at the end of which the financial position of the City and the results of its operations for such period are determined. Currently, the City's Fiscal Year begins July 1 and continues through June 30 of the next year.

"Holder" shall mean, for purposes of this Disclosure Agreement, any person who is a record owner or beneficial owner of a 2013 Bond.

"Make Public" or "Made Public" has the meaning set forth in Section 4 of this Disclosure Agreement.

"MSRB" shall mean the Municipal Securities Rulemaking Board.

"Participating Underwriter" shall mean any of the original underwriters of the 2013 Bonds required to comply with the Rule in connection with the offering of such 2013 Bonds.

"Rule" shall mean Rule 15c2-12 under the Securities Exchange Act of 1934 and any similar rules of the SEC relating to disclosure requirements in the offering and sale of municipal securities, all as in effect from time to time.

"SEC" shall mean the U.S. Securities and Exchange Commission.

**Section 3. Obligations of the City.** (a) The City shall complete the preparation of the Annual Financial Information with respect to any Fiscal Year of the City not later than 270 days after the end of such Fiscal Year.

(b) The City shall, in accordance with the Rule, Make Public or cause to be Made Public by the Dissemination Agent (if other than the City), the Annual Financial Information within 30 days after it is prepared in final form.

(c) The City shall Make Public or cause to be Made Public by the Dissemination Agent (if other than the City), in a timely manner not in excess of 10 business

days after the occurrence of the event, notice of the occurrence of any of the following events with respect to the 2013 Bonds:

- (i) principal and interest payment delinquencies;
- (ii) non-payment related defaults, if material;
- (iii) unscheduled draws on debt service reserves reflecting financial difficulties;
- (iv) unscheduled draws on any credit enhancement maintained with respect to the 2013 Bonds reflecting financial difficulties;
- (v) substitution of credit or liquidity providers, or their failure to perform;
- (vi) adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701 - TEB) or other material notices or determinations with respect to the tax status of the 2013 Bonds, or other material events affecting the tax status of the 2013 Bonds;
- (vii) modifications to rights of Holders, if material;
- (viii) bond calls, if material, and tender offers;
- (ix) defeasances;
- (x) release, substitution, or sale of property securing repayment of the 2013 Bonds, if material;
- (xi) rating changes;
- (xii) bankruptcy, insolvency, receivership or similar event of the City;\*
- (xiii) the consummation of a merger, consolidation, or acquisition involving the City or the sale of all or substantially all of the assets of the City, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material; and

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\* The event is considered to occur when any of the following occur: the appointment of a receiver, fiscal agent or similar officer for the City in a proceeding under the U.S. Bankruptcy Code or in any other proceeding under state or federal law in which a court or governmental authority has assumed jurisdiction over substantially all of the assets or business of the City, or if such jurisdiction has been assumed by leaving the existing governing body and officials or officers in possession but subject to the supervision and orders of a court or governmental authority, or the entry of an order confirming a plan or reorganization, arrangement or liquidation by a court or governmental authority having supervision or jurisdiction over substantially all of the assets or business of the City.

(xiv) appointment of a successor or additional trustee or the change of name of a trustee, if material.

Provided that nothing in this subsection (c) shall require the City to maintain any debt service reserve, credit enhancement or credit or liquidity providers with respect to the 2013 Bonds or to pledge any property as security for repayment of the 2013 Bonds.

(d) The City shall Make Public or cause to be Made Public by the Dissemination Agent (if other than the City), in a timely manner, notice of a failure of the City to provide the Annual Financial Information, on or before the date specified in this Disclosure Agreement.

(e) The City shall notify the MSRB of any change in its Fiscal Year not later than the date on which it first provides any information to the MSRB in the current Fiscal Year.

**Section 4. Information Made Public.** Information shall be deemed to have been "Made Public" for purposes of this Disclosure Agreement if transmitted the MSRB in an electronic format as prescribed by the MSRB. Should the SEC approve any additional or subsequent filing system for satisfying the continuing disclosure filing requirements of the Rule, any filings required under this Disclosure Agreement may be made by transmitting such filing to such system, as described in the applicable SEC regulation or release approving such filing system.

**Section 5. Incorporation by Reference.** Any or all of the Annual Financial Information may be incorporated by specific reference from other documents, including official statements containing information with respect to the City, which are available to the public on the internet website of the MSRB or filed with the SEC. The City shall clearly identify each such other document so incorporated by reference.

**Section 6. CUSIP Numbers.** The City shall reference, or cause the Dissemination Agent (if not the City) to reference, the CUSIP prefix number for the 2013 Bonds in any notice provided to the MSRB pursuant to Sections 3 and 4.

**Section 7. Termination of Reporting Obligation.** The obligations of the City under this Disclosure Agreement shall terminate upon the earlier to occur of the legal defeasance or final retirement of the 2013 Bonds.

**Section 8. Dissemination Agent.** The City may, from time to time, appoint or engage a Dissemination Agent to assist it in carrying out its obligations under this Disclosure Agreement and may discharge any such Agent, with or without appointing a successor Dissemination Agent. If at any time there is not any other designated Dissemination Agent, the City shall be the Dissemination Agent.

**Section 9. Identifying Information.** All documents provided to the MSRB hereunder shall be accompanied by identifying information as prescribed by the MSRB.

**Section 10. Amendment.** Notwithstanding any other provision of this Disclosure Agreement, the City may amend this Disclosure Agreement, if such amendment is supported by

an opinion of independent counsel with expertise in federal securities laws addressed to the City and to the Participating Underwriters for the 2013 Bonds to the effect that such amendment is permitted or required by the Rule.

**Section 11. Additional Information.** Nothing in this Disclosure Agreement shall be deemed to prevent the City from disseminating any other information using the means of dissemination set forth in this Disclosure Agreement or any other means of communication, or including any other information in any Annual Financial Information or notice of occurrence of an event listed in Section 3(c), in addition to that which is required by this Disclosure Agreement. If the City chooses to report any information in any Annual Financial Information or include any information in a notice of occurrence of an event listed in Section 3(c), in addition to that which is specifically required by this Disclosure Agreement, the City shall have no obligation under this Disclosure Agreement to update such information or include it in any future Annual Financial Information or notice of occurrence of such an event.

**Section 12. Default.** Any Holder, whether acting jointly or severally, may take such action as may be permitted by law against the appropriate public official to secure compliance with the obligations of the City under this Disclosure Agreement. In addition, any Holder, whether acting jointly or severally, may take such action as may be permitted by law to challenge the adequacy of any information provided pursuant to this Disclosure Agreement, or to enforce any other obligation of the City hereunder. A default under this Disclosure Agreement shall not be deemed an event of default under the Ordinance or any other debt authorization of the City, the Indenture or any 2013 Bond and the sole remedy under this Disclosure Agreement in the event of any failure of the City to comply herewith shall be an action to compel performance. Nothing in this provision shall be deemed to restrict the rights or remedies of any Holder pursuant to the Securities Exchange Act of 1934, the rules and regulations promulgated thereunder, or other applicable laws.

**Section 13. Beneficiaries.** This Disclosure Agreement shall inure solely to the benefit of the City, the Participating Underwriters and the Holders and shall create no rights in any other person or entity.

**Section 14. Counterparts.** This Disclosure Agreement may be executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

[SIGNATURE PAGE FOLLOWS]

**IN WITNESS WHEREOF**, the undersigned have executed this Continuing Disclosure Agreement on behalf of the City of Norfolk, Virginia, as of the Closing Date.

**CITY OF NORFOLK, VIRGINIA**

By: \_\_\_\_\_  
Marcus D. Jones, City Manager

By: \_\_\_\_\_  
Alice M. Kelly, Director of Finance

AGREED TO AND ACKNOWLEDGED:

**U.S. BANK NATIONAL ASSOCIATION**

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

Approved as to Form and Correctness:

\_\_\_\_\_  
Office of the City Attorney  
City of Norfolk, Virginia

[SIGNATURE PAGE TO CONTINUING DISCLOSURE AGREEMENT]

**FEASIBILITY STUDY OF CONSULTING ENGINEER**

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# **SERIES 2013 WATER REVENUE BOND FEASIBILITY REPORT**

**B&V PROJECT NO. 167772**

**PREPARED FOR**

**City of Norfolk, Virginia**

**4 FEBRUARY 2013**

February 4, 2013

City Council  
City of Norfolk  
City Hall Building  
810 Union Street  
Norfolk, Virginia 23510

Subject: Series 2013 Water Revenue Bond Feasibility Report

Honorable Council Members:

We are pleased to submit our Series 2013 Water Revenue Bond Feasibility Report (the "Report") prepared in support of \$43,560,000<sup>1</sup> City of Norfolk, Water Revenue Bonds, Series 2013 (the "2013 Bonds"). This Report presents the findings of engineering and financial studies performed by Black & Veatch.

In preparation of this Report, we have conducted on-site inspections of the Water System, reviewed the records and reports of the Water Utility Fund, reviewed the City's Master Indenture and conducted financial analyses for the purpose of addressing the feasibility of the 2013 Bonds.

Based on our engineering and financial studies, the following findings are presented:

1. Given current usage and trends, the City's present Water System can be expected to provide sufficient capacity to meet current water needs of its residents, businesses and all of its current contract obligations through the Study Period. The City's treated water currently meets all physical, chemical, radiological and bacteriological water quality standards established by Federal and State regulations.
2. The Water System is managed and operated in an appropriate manner consistent with sound engineering practices and with appropriate levels of staffing; continuation of these practices, combined with the regular maintenance and completion of the proposed Capital Improvement Program ("CIP"), suggest that the system should be capable of providing safe and reliable drinking water to its customers through the Study Period.
3. Norfolk's Water System is in overall good condition and appears capable of revenue generation for the term of the 2013 Bonds with continued regular maintenance and scheduled System improvements.
4. The CIP for FY 2013 through FY 2017 adequately addresses known requirements for Water System facility renovations and upgrades. The program has sufficiently addressed current and proposed Federal and State regulations regarding safe drinking water, dam safety and environmental protection. While there are some potential contaminants that may be incorporated into future Safe Drinking Water Act amendments, there are no pending regulations that will appear to impact the improvements planned in the CIP.
5. Throughout the Study Period, the City's net revenues are projected to be sufficient (including projected revenue increases indicated in the Report resulting from rate increases which have

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<sup>1</sup> Preliminary, subject to change.

been approved by City Council) to comply with the annual Revenue Covenant requirement in the Master Indenture, taking into account the Outstanding Senior Debt, the 2013 Bonds, and planned additional revenue bonds to be issued during the Study Period.

6. Assuming the sufficiency of current engineering estimates and project budgets, the funds available from the 2013 Bonds, together with other funds available to the City, will be sufficient to complete the design and/or construction of the proposed CIP.
7. Given the assumptions and the data utilized in the analysis, the System is projected to be able to generate adequate reserves during the Study Period.
8. Based on the City's unaudited financial results for FY 2012, the City is projected to be able to meet the Revenue Covenant requirements of the Master Indenture regarding issuance of additional bonds, taking into account (i) the maximum principal and interest payments on the outstanding debt and the 2013 Bonds and (ii) the rates, fees and other charges which are in effect and any future changes therein as have been approved by the City Council at the time of the delivery of the 2013 Bonds.
9. The sale of the 2013 Bonds, in the amount of approximately \$43,560,000<sup>1</sup> is financially feasible under the assumptions and projections contained in this Report.

Subject to the limitations set forth herein, this Report was prepared for the City by Black & Veatch and is based on information not within the control of Black & Veatch. Black & Veatch has not been requested to make an independent analysis, to verify the information provided to it, or to render an independent judgment of the validity of the information provided by others. As such, Black & Veatch cannot, and does not, guarantee the accuracy thereof.

In conducting our analyses and in forming an opinion of the projection of future operations summarized in this Report, Black & Veatch has made certain assumptions with respect to conditions, events and circumstances which may occur in the future. The methodology utilized by Black & Veatch in performing the analyses follows generally accepted practices for such projections. While Black & Veatch believes the assumptions are reasonable and appropriate, and the projection methodology valid, actual results may differ materially from those projected, as influenced by the conditions, events, and circumstances that actually occur that are unknown at this time and/or which are beyond the control of Black & Veatch.

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<sup>1</sup> Preliminary, subject to change.



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Black & Veatch appreciates the opportunity to present the findings of our studies.

Very truly yours,  
BLACK & VEATCH

John R. Kersten  
Vice President

Enclosure

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## 1.0 Introduction

### 1.1 PURPOSE AND LIMITATIONS

The purpose of this Report is to summarize findings of engineering and financial studies performed by Black & Veatch Corporation (“Black & Veatch”) in connection with the proposed issuance of City of Norfolk, Virginia (the “City” or “Norfolk”), Water Revenue Bonds, Series 2013 (the “2013 Bonds”) in the aggregate principal amount of approximately \$43,560,000<sup>1</sup>. Norfolk plans to use the proceeds from the 2013 Bonds to fund certain Water Utility capital projects included in the City’s Capital Improvement Program (as more particularly defined below, the “CIP”), and to pay associated issuance costs. The 2013 Bonds will be issued under the Master Indenture of Trust as previously amended and supplemented (the “Master Indenture”) and as further supplemented by the Tenth Supplemental Indenture of Trust. The Master Indenture and the Tenth Supplemental Indenture are referred to collectively as the “Indenture”. Under the Master Indenture the City issued its Series 2005, 2008 and 2010 Water Revenue Bonds and Series 2012 Water Revenue Refunding Bonds, respectively (collectively, the “Outstanding Senior Debt”).

The terminology used in this Report is consistent with the terms and definitions as presented in the Indenture and Appendix A of the Official Statement.

Subject to the limitations set forth herein, this Report was prepared for the City by Black & Veatch and is based on information not within the control of Black & Veatch. Black & Veatch has not been requested to make an independent analysis, to verify the information provided to it, or to render an independent judgment of the validity of the information provided by others. As such, Black & Veatch cannot, and does not, guarantee the accuracy thereof.

In conducting our analyses and in forming an opinion of the projection of future operations summarized in this Report, Black & Veatch has made certain assumptions with respect to conditions, events and circumstances which may occur in the future. The methodology utilized by Black & Veatch in performing the analyses follows generally accepted practices for such projections. While Black & Veatch believes the assumptions are reasonable and appropriate, and the projection methodology valid, actual results may differ materially from those projected, as influenced by the conditions, events and circumstances that actually occur that are unknown at this time and/or which are beyond the control of Black & Veatch.

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### 1.2 SCOPE

The results of the engineering studies are based on site visits and review of relevant documents and records. Our findings address the adequacy of the physical condition of the City’s water supply,

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<sup>1</sup> Preliminary, subject to change.



treatment, storage and distribution facilities (the “Water System”), Water System capacity, operation and maintenance practices, staffing levels, and the proposed CIP to meet current and future requirements.

The financial analysis is based on a review of the City’s Department of Utilities’ Water Utility (“Water Utility”) records plus the Revenue Covenant requirements of the Master Indenture and other relevant provisions of the Master Indenture. The analysis includes the projection of revenues and revenue requirements for the City’s fiscal years (“FY”) ending June 30, 2013 through 2017 (the “Study Period”), an evaluation of anticipated annual debt service coverage on the Outstanding Senior Debt, the 2013 Bonds and additional Bonds proposed to be issued during the Study Period, and a demonstration of the adequacy of projected revenues to maintain bond reserves while meeting projected costs of Water System operation.

In this Report, where standards or requirements are indicated as being applicable, being fulfilled, or to be attained, such standards or requirements are those promulgated by the United States Environmental Protection Agency (the “EPA”), the Virginia Department of Environmental Quality (the “DEQ”) and the Virginia Department of Health (the “VDH”) in accordance with the provisions of Federal laws and the laws of the Commonwealth of Virginia governing the provision of drinking water services.

The ratings assigned in this Report are the result of physical inspections of the described Water System facilities that were conducted in December 2012. The general physical condition of the Water System’s facilities has been evaluated using three rating categories — good, adequate and poor as described below:

- *Good:* The facility is in condition to provide reliable operation in accordance with design parameters and requires only routine maintenance.
- *Adequate:* The facility is operating at or near design levels; however, non-routine renovation, upgrading and repairs are needed to ensure continued reliable operation. Significant expenditures for these improvements may be required.
- *Poor:* The facility is not being operated within design parameters. Major renovations are required to restore the facility and assure reliable operation. Major expenditures for these improvements may be required.

The evaluation of the City’s Water System requires an assessment of each of the Water System’s major components. The overall evaluation described in this Report is based on observations and estimates of the degree of improvement that has been and will be provided by the projects in the CIP, and their impact in meeting service requirements.

### **1.3 BLACK & VEATCH QUALIFICATIONS**

Black & Veatch is one of the largest and most experienced engineering, construction and consulting firms in the United States specializing in utility engineering and finance. Our experience includes the planning, design, construction, and operations analyses of water, wastewater, and energy generation and transmission utility systems. In addition, the firm has extensive experience in assisting utilities with management, financing and rate aspects of their operations. The firm has been engaged in projects for clients worldwide, including utilities owned by municipalities ranging

in size from small villages to large metropolitan regions; investor-owned utilities; industrial and commercial businesses; plus United States and international governmental agencies.

The physical evaluation of the water systems has been performed by experienced personnel of the firm's Water Sector Business which provides study, design, and construction services in all facets of the water and wastewater fields. Water system engineering experience of this business unit includes the design of a broad variety of facilities such as source of supply, pumping stations, treatment plants, and transmission and distribution systems. The Water Sector Business also has extensive experience in operator training, plant management studies, and preparation of operation and maintenance manuals for water systems.

This financial feasibility study has been performed by professionals from Black & Veatch's Management Consulting Division. This business unit provides services in such areas as utility economic and financial feasibility analyses, rate studies, property valuation, depreciation rate studies, strategic financial planning, non-audit accounting, management and operations analysis, benchmarking and the preparation of consulting engineering reports for official statements.

Having performed numerous financial and rate services for the City of Norfolk's Department of Utilities over the last 40 years, personnel from the Black & Veatch are quite familiar with the Department's operations and financial matters.

## 2.0 Engineering Analysis

### 2.1 SERVICE AREA AND CUSTOMER BASE

The City, through its Department of Utilities, owns and operates the Water System, which provides potable water to approximately 66,900 Retail Service customers (i.e. accounts) and Wholesale Service to the U.S. Navy, the City of Virginia Beach ("Virginia Beach"), the City of Chesapeake ("Chesapeake"), and the Western Tidewater Water Authority (the "WTWA") (which includes the City of Suffolk and Isle of Wight County). According to the University of Virginia Weldon Cooper Center for Public Service (the "Weldon Center"), population in the area served by the Water System totals approximately 1,100,000 people.

The City of Norfolk covers an area of 66 square miles, approximately one-fourth of which is occupied by U.S. Navy facilities. Norfolk's Retail Service area and the Wholesale Service areas, with distribution systems owned by Wholesale customers, are shown in Figure 1.



Figure 1 Service Area Map

According to the Weldon Center, the City's population has increased from approximately 242,800 to 245,000, or about 1.2 percent, since the 2010 Census (source: Weldon Center, January 2013). Norfolk Retail Service accounted for approximately 44.2 percent of total raw and treated water

sales revenue during FY 2012. According to this same source, the population of the Norfolk-Virginia Beach Metropolitan area, which relies in large part on the Water System, has increased approximately 0.8 percent since the 2010 Census and approximately 6.3 percent since the year 2000. Water sales to Virginia Beach and other wholesale customers accounted for approximately 53.0 percent of total treated water sales revenue during FY 2012.

In FY 2012, the City provided about 32.4 million gallons per day (“mgd”) of treated water to Virginia Beach under the 1993 Water Services Contract, as amended February 14, 2001. Virginia Beach is the largest Wholesale customer of the City, accounting for 51.4 percent of total water volume delivered during FY 2012.

Rapid growth since 1950 combined with early 1980s water shortages in the region, led Virginia Beach to investigate and locate a source of water supply to supplement existing regional supplies and to meet their long-term demands. Virginia Beach’s “Lake Gaston Project” consists of a 60.0 mgd intake and pump station plus a 76-mile, 60-inch diameter pipeline from the Pea Hill Creek Tributary of Lake Gaston in Brunswick County, Virginia to the City of Norfolk’s Western Reservoir System in Isle of Wight County.

The Virginia Beach Water Services Contract covers Lake Gaston water being pumped to the City’s Western Reservoir System for transportation and treatment to treated water quality by the City for Wholesale Service delivery to Virginia Beach. As an additional provision of the Water Services Contract, the City agreed to wheel up to 10.0 mgd of Lake Gaston raw water for Chesapeake to the Red Top area, which is located within the City limits of Suffolk and near the City’s Western Branch Pump Station. The additions to provide raw water to Chesapeake’s Red Top area are currently under construction.

Due to permitting issues with the City of Suffolk that delayed the implementation of improvements associated with Chesapeake’s allocation of the Lake Gaston water supply, an interconnection along Norfolk’s raw water transmission system from Western Branch to 37<sup>th</sup> Street Water Treatment Plant (Lines 1 and 2) was constructed to allow raw water to be purchased by Chesapeake from Norfolk directly. This raw water is not part of this 10.0 mgd allocation of Lake Gaston water supply. The raw water currently purchased by Chesapeake is a simple raw water purchase of Norfolk’s surplus raw water capacity. Chesapeake funded the improvements necessary to deliver this raw water to Chesapeake’s Lake Gaston Water Treatment Plant. The Chesapeake raw water Contract is a “take or pay” supply of 7.0 mgd with a maximum delivery of 10.0 mgd and will remain in force through December 31, 2042. Under the Chesapeake contract the City must supply up to 10.0 mgd from Lake Gaston to Chesapeake. Chesapeake pays for all of the water it uses, but if Chesapeake uses less than 7.0 mgd it pays as if it used 7.0 mgd.

## **2.2 SAFE DRINKING WATER REGULATORY COMPLIANCE**

A primary goal of any municipal water system is to provide drinking water that is in full compliance with the Environmental Protection Agency’s (EPA) Safe Drinking Water Act (SDWA). To this end, the Department of Utilities Division of Water Quality oversees the City’s compliance with the SDWA under 40 CFR Part 141, administered by the Virginia Department of Health, Office of Water Programs (VDH OWP), under Code of Virginia Chapter 40, sections 10-370.

The SDWA compliance elements for which the division is responsible fall under the following rules:

**Total Coliform Rule (TCR):** Sampling for microbial contaminants is based upon population. Norfolk collects 150 samples per month from 75 locations distributed throughout the City. There are two bacteriological tests and up to six chemical tests associated with each sample.

**Stage 2 Disinfectant / Disinfection By-Products Rule (Stage 2 D/DBPR):** Sampling for disinfectant residual occurs in conjunction with compliance sampling for the TCR. Sampling for Disinfection By-Products (DBP) contaminants occurs quarterly at eight sites distributed throughout the City. There are three bench analyses associated with each sample, and there are two DBP analyses with a total of eleven potential contaminants under regulation.

**Phase I, II, IIb, and V Contaminant Rules (P II/V):** Most regulated Primary Contaminants fall under this rule, with a variety of regulatory schedules. Norfolk performs a Phase II/V analysis every quarter, with a total of over 200 potential contaminants tested at the entry points of both water treatment facilities.

**Lead & Copper Rule (LCR):** Norfolk is on a reduced-monitoring basis for the LCR. A minimum of fifty households are tested on a triennial basis for lead, copper, and a set of relevant water quality parameters.

**Radionuclide Rule (RNR):** Five radiological parameters are regulated on a 9-year cycle, with 3-year subcycles. Norfolk tests for all regulated radiologicals annually.

**National Secondary Drinking Water Regulations:** There are 15 measures of water quality that have recommended, but not regulated, limits. Most are discrete contaminants and some are water characteristics. A few are tested several times per day, some on a monthly basis, and others with the quarterly P II/V sampling.

**Unregulated Contaminant Rule (UCMR):** This is a recurring effort to collect occurrence data on emerging contaminants. Some of these contaminants of interest may be regulated in the future, and most end up on the “unregulated but monitored” list, which is covered in the City’s quarterly P II/V collection.

**Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR):** This rule is intended to reduce the risk posed by waterborne microbial contaminants. Periodic sampling for Cryptosporidium and Giardia, as well as “benchmarking” calculations performed by the division on a daily basis assure the performance efficacy of each treatment facility.

**Consumer Confidence Rule (CCR):** This rule is intended to deliver concise water quality data to the consumer in an uncluttered and comprehensible format. It is prepared for the previous calendar year’s analyses, and must be delivered to households by July 1 of the following year. Norfolk typically delivers its Consumer Confidence Report in early May, just ahead of National Water Week.

As noted in the Department’s 2012 Water Quality Report, the levels of these constituents, if any, in the City’s treated water were below both the regulatory requirements for both primary and secondary regulated constituents. As such, the City maintains its system well within regulatory

guidelines and continuously updates its treatment processes and operations to ensure compliance within all federal and state regulations and guidelines.

## **2.3 PRESENT WATER SYSTEM**

This section describes Norfolk's Water System as it now exists, including projects currently under construction to improve or augment existing facilities. Black & Veatch inspected facilities in December 2012 to assess the operating condition of the Water System. Generally speaking, Norfolk maintains the physical facilities of the Water System in an overall good operating condition. Based on the observations during the Black & Veatch inspections, operation and maintenance performance for treatment, pumping, transmission and distribution facilities is good; and staffing levels are adequate. Overall, current Water System capacity is adequate to handle Norfolk's current Retail and Wholesale Service demands.

### **2.3.1 Raw Water Supply Facilities**

The raw water supply facilities in the Water System consist of two river intake/pump stations, three raw water reservoirs in western Suffolk and eastern Isle of Wight County known collectively as the "Western Reservoir System," five reservoirs in or near Norfolk called the "In-Town Reservoirs," and four groundwater supply wells which discharge into Lake Prince and Lake Burnt Mills, (components of the Western Reservoir System). As mentioned previously, the raw water supply also includes raw water delivered from Lake Gaston via the City of Virginia Beach Lake Gaston Raw Water Pump Station and pipeline. In addition, Virginia Beach owns and operates Stumpy Lake Reservoir and Pump Station, which can supplement the City's In-Town Reservoirs.

It should be noted that the Virginia Beach Water Services Contract assigns Norfolk the responsibility to effectively manage the use of Virginia Beach's Lake Gaston Pump Station. Specifically, the interest is minimizing water loss that occurs in the Western Reservoir System from Western Branch Reservoir spillway overflows due to excessive pumping of the Lake Gaston raw water.

A map of the raw water transmission facilities is shown in Figure 2.





The Western Reservoir System consists of Lake Prince, Lake Burnt Mills and Western Branch Reservoirs, which have capacities of approximately 3.7, 3.4 and 6.0 billion gallons, respectively. Water from Lake Prince and Lake Burnt Mills is directed into the Western Branch Reservoir either over the respective spillways or via a controlled release through an intake system below the spillway elevation. Any overflow from Western Branch Reservoir enters the Nansemond River and flows to the James River and eventually empties into the Chesapeake Bay.

The dams for these reservoirs are monitored and inspected regularly as per Federal and Virginia Dam Safety regulations. However, to comply with new Federal and Virginia Dam Safety regulations, each Class I dam owned by the City must be modified with parapet walls on top of earthen dams to safely control a probable maximum flood event. No modifications are required to Lake Prince Dam as it is not a Class I dam. Modifications have been completed for Lake Burnt Mills Dam and are planned for Western Branch Dam. In fact, to this end, the City recently won the National Dam Rehabilitation Project of the Year award from the Association of State Dam Safety Officials for recent improvements to the Lake Burnt Mills Dam, with similar improvements proposed for their other spillways.

The similar improvements for the Western Branch Dam and spillway are scheduled to begin in summer of 2013 with an anticipated cost of approximately \$25 million. This includes required improvements to existing concrete structures as well a new, 600 foot long emergency spillway. This is being conducted under a previous CIP authorization. While there were recent improvements to the Western Branch Reservoir system for watershed protection ("Rehabilitate Reservoirs System Wide" Project), the improvements to the Western Branch Reservoir spillway are necessary to maintain the integrity of the dam.

Reservoir aeration systems are located within both Lake Prince and the Western Branch reservoirs. They are used to improve raw water quality by maintaining adequate dissolved oxygen levels in the hypolimnetic zone, thereby controlling iron and manganese release from the sediments by maintaining an oxidizing environment. This reduces the need for additional treatment chemicals (and the subsequent costs) at the treatment plants and improves treated water quality by reducing manganese and disinfection by-product levels. Compressor buildings are located adjacent to the Western Branch and Lake Prince pump stations and supply air to aerators that are located in both the Western Branch and Lake Prince reservoirs. The compressor buildings and associated equipment appear to be in good working condition. The routine replacement/rehabilitation of the Western Branch aerators was recently completed.

In addition to the surface water supply facilities, Norfolk owns and maintains four deep groundwater supply wells, which have a total capacity 16.0 mgd. The wells are approximately 800 to 1,200 feet deep and are typically used only during drought conditions. When operating, three wells (No. 1, No. 2, and No. 4) discharge directly into Lake Prince and one well (No. 3) discharges into Lake Burnt Mills. Well No. 2 was observed in good condition and staff indicated that the others are also in good condition. A recent project at Wells No. 2 and 3 included an acid delivery system at both wells to reduce elevated hardness in the ground water prior to mixing with the surface water supplies.

The Norfolk-owned river intakes/pump stations are on the Nottoway and Blackwater Rivers and discharge into pipelines terminating at the head waters of Lake Prince in the Western Reservoir



System. The river pump stations are used to transport raw river water to Lake Prince and Western Branch Reservoirs depending on need. Raw water is conveyed via dedicated 42-inch raw water pipelines from each river pump station via a 20 mile pipeline for the Nottoway River supply and 10 mile pipeline for the Blackwater River supply. These pipelines do have an interconnect to allow flow from one pump station to be conveyed by either pipeline (or both pipelines concurrently). According to City staff, these pipelines are in adequate condition. No significant improvements to these pipelines are scheduled or anticipated during the Study Period.

The Blackwater Pump Station has a nominal capacity (via four pumps) of 23.5 mgd through the Blackwater pipeline and 24.5 mgd with the interconnect open. The Nottoway Pump Station has a nominal capacity (via four pumps) of 24.0 mgd through the Nottoway pipeline and 31.0 mgd with the interconnect open. Both pump stations are in adequate condition with no apparent structural issues, given their age. Additionally, while the pumps are 50 to 70 years old, they were observed to be operating adequately. Seals and bearings were replaced on the pumps at the Blackwater Pump Station in 1998 and replaced on the pumps at the Nottoway Pump Station within the last few years.

The Nottoway and Blackwater Pump Stations, however, are vulnerable to flooding which can put the pumps out of service during significant rainfall events. As such, the City underwent a comprehensive engineering review to develop improvements to both stations that will minimize the impacts of flooding. Phase I consisted of rehabilitating the bulkhead system, providing emergency generators and adding temporary flood controls. These improvements were completed in FY 2012 at a cost of \$2.2 million. These improvements provide additional protection against flooding until the long-term solutions proposed for Phase II can be implemented. Phase II includes additional flood protection and submersible pumps at both facilities at a cost of \$6.8 million (the amount remaining from previous CIP authorization for bulkhead and structural improvements). Phase II will be initiated after the improvements at Lake Prince Pumping Station noted below are complete.

The Lake Prince Pump Station transfers water directly to the Moores Bridges Water Treatment Plant ("Moores Bridges WTP"). It also has a dedicated pump and transmission main for providing raw water to the City of Portsmouth ("Portsmouth") during emergency situations. Four 10.0 mgd vertical turbine pumps are located at the Lake Prince Pump Station, and the actual pumps are in adequate condition; however, as discussed in the following paragraph, the motor controls and switchgear do require replacement. It should be noted that two of the four pumps were installed in 2005 and 2007. The other two pumps are 1989 vintage and in good working condition. The Lake Prince Pump Station has a nominal capacity of 30.0 mgd with one pump out of service and Western Branch and Simonsdale No. 1 Pump Stations off-line.

The intake screens showed some corrosion, but appear to be working as expected and staff indicated that they have had no major maintenance issues. However, similar to the Nottoway and Blackwater Pump Stations, the Lake Prince Pump Station is susceptible to flooding. As such, \$1.0 million, approved in a previous CIP, will be utilized to replace and raise the motor controls and switchgear for the pumps to prevent damage from future flooding events. This project is anticipated to start construction in two years and was approved in a prior CIP authorization.

The Western Branch Pump Station, having a 152.0 mgd hydraulic design capacity, currently has the installed pump capacity of 112.0 mgd. The Western Branch Pump Station was constructed in 2000

and is in good working order based on inspections and conversations with City staff. Improvements to the Western Branch Pump Station to supply the Western Tidewater Water Authority (WTWA) with 3.0 mgd of raw water initially, and 15.0 mgd ultimately, have commenced and are scheduled to be in service by January 1, 2014. The City budgeted \$3.0 million for these improvements under a previously approved CIP; however, while the City will initially fund these improvements, the City will be reimbursed directly by the WTWA under the terms of the City's contract with the WTWA, which requires quarterly payments during construction.

Other significant improvements to the Western Branch Pump Station include the pump and piping improvements to deliver Chesapeake's portion of the Lake Gaston water supply to the Red Top area when requested by Chesapeake. These improvements are underway and will be funded directly by Virginia Beach under the terms of their agreement and, as such, no funds are required from the City for this project.

The Western Branch Pump Station delivers 28.0 mgd of raw water to the 37<sup>th</sup> Street Water Treatment Plant (the "37<sup>th</sup> Street WTP") via dual 36-inch transmission mains (Raw Water Lines 1 and 2). These mains have been in need of repair and have undergone significant replacements in recent years. Pipeline segments in or along Reid's Ferry, Coast Guard Boulevard, Craney Island, Driver and other segments of these pipes have been replaced and resulted in reduced leakage. For FY 2013 and 2014, Phase II of Coast Guard Boulevard (\$1.5 million); a directional drill under the Eastern Branch of the Elizabeth River (\$1.7 million); and a direction drill under the Western Branch of the Elizabeth River (\$3.5 million) are planned. This work is either included in a previous CIP authorization for transmission and distribution projects or included in the City's CIP budget as part of the \$18.2 million allocated annually for the replacement or rehabilitation of waterlines. It should be noted that 10 to 15% of the \$18.2 million CIP budget is typically spent on emergency projects, which is typical for a system of this size. It should be noted that work on Lines 1 and 2 will continue over the next few years as these are the most critical pipes in the City's system with deterioration issues.

The Moores Bridges Water Treatment Plant (WTP) is primarily supplied at a maximum day rate via the Western Branch Pump Station, Lake Prince Pump Station, and the two Simonsdale Booster Pump Stations (Nos. 1 and 2). The raw water is conveyed via 30 miles of dual 48-inch transmission mains (Raw Water Lines 3 and 4). These dual pipelines have a capacity of 109.0 mgd when operated in parallel and both Simonsdale Booster Pump Stations are operating. These lines were constructed in the 1990's and are in good condition. Therefore, there are no scheduled or anticipated improvements for these pipelines during the Study Period.

The Simonsdale Pump Stations No. 1 and No. 2 are booster pump stations located on the Raw Water Lines 3 and 4, respectively. Simonsdale No. 1 has three pumps, each with a pumping capacity of 16,000 gallons per minute ("gpm") or 23.0 mgd, and Simonsdale No. 2 has five pumps, each with a capacity of 10,677 gpm (or 15.4 mgd). There is also an interconnect that allows the two pump stations to convey water from Raw Water Lines 3 and 4 to Raw Water Lines 1 and 2. Therefore, if Lines 1 and/or 2 fail upstream of the interconnect, the City can continue to supply the 37<sup>th</sup> Street WTP. Due to the stable raw water demands, the Simonsdale pump stations have not been utilized regularly in recent years. Both pump stations are in good condition as the Simonsdale Pump Station No. 1 underwent improvements, including pump replacements and upgrades to the control and

ventilation systems, within the last 10 years, and the Simonsdale Pump Station No. 2 is less than 15 years old.

As noted previously, the In-Town Reservoirs consist of five City-owned and operated water supply reservoirs: including Lake Lawson, Lake Smith, and Little Creek Reservoir in Virginia Beach; and Lake Whitehurst and Lake Wright in the City of Norfolk. Water Utility personnel regularly inspect and maintain the In-Town Reservoirs. Trees were recently removed from the Lake Smith Dam to improve its operation. This project was completed with funds from the current CIP, as well as a previously approved CIP allocation.

Stumpy Lake is owned and operated by Virginia Beach, but provides additional raw water supply as directed by the City of Norfolk via a 5.0 mgd pumping station and pipeline that discharges directly to Lake Lawson. The Stumpy Lake source is rarely used. The total capacity of the five In-Town Reservoirs plus Stumpy Lake is approximately 2.3 billion gallons.

The five City-owned In-Town Reservoirs are connected by man-made canals and flow by gravity to the Moores Bridges WTP. In-Town Reservoir raw water is presently used in combination with the maximum month pumping of Western Reservoir System raw water to meet Moores Bridges WTP maximum day treatment requirements. Raw water from the In-Town Reservoir system is delivered to Moores Bridges WTP via the Lake Wright Pump Station which is located on Lake Wright at the Moores Bridges WTP.

Lake Wright Pump Station has been used infrequently due to recent demand trends, but has an ultimate capacity of 58.0 mgd if Western Branch and Lake Prince Pump Stations are off-line. The Lake Wright Pump Station had been susceptible to periodic flooding; however, recent operational changes (sluice gates and pumping operation) seem to have eliminated the flooding issue and the need for costly improvements to an infrequently used facility.

While not part of its In-Town Reservoir water supply, the City also maintains Lake Taylor, which is located adjacent to the Moores Bridges WTP. Lake Taylor is extremely shallow (less than three feet at full pool) and does not provide any true raw water storage. As such, the City does not consider it part of the In-Town Reservoir facilities. Moreover, the spillways for its two dams are in relatively poor condition. While CIP allocation has been made available to replace the Lake Taylor Spillways, City staff continues to assess the immediate need for this project. The approach to Lake Taylor seems prudent when considering the other needs of the Water System. The spillways do not appear to be in danger of failing, and even if they did, the released water would flow to the Elizabeth River via Broad Creek with no anticipated damage to surrounding property.

As a whole, the raw water supply facilities, including the reservoirs, dams, river intakes, wells, and pump stations are generally well-operated and maintained in good condition or, if currently in poor condition, are scheduled to be improved within the current CIP term. There are certain segments of the dual 36-inch pipelines supplying the 37<sup>th</sup> Street WTP (Raw Water Lines 1 and 2), which have been identified by the City and are on a planned replacement schedule. It appears any necessary and significant improvements have been considered and are incorporated into the City's CIP.

### 2.3.2 Water Treatment Facilities

The Department of Utilities owns and operates two major water treatment plants, the Moores Bridges WTP and the 37<sup>th</sup> Street WTP. The Moores Bridges WTP primarily provides treated water to the eastern one-third of Norfolk, and to Virginia Beach. The 37<sup>th</sup> Street WTP provides treated water primarily to the western two-thirds of Norfolk. Treated water from both plants also serves U.S. Navy facilities and the City of Chesapeake.

#### 2.3.2.1 Moores Bridges Water Treatment Plant

The initial treatment plant at Moores Bridges WTP was constructed in 1873. Additions and improvements have been made to the plant over the years resulting in a hydraulic capacity of 108.0 mgd as of the latest round of improvements in 1999. As mentioned previously, the plant receives water primarily from the Western Reservoir System through two 48-inch pipelines and secondarily from the In-Town Reservoirs through the Lake Wright Pump Station located at the plant site.

The Moores Bridges WTP is a conventional water treatment plant incorporating coagulation, flocculation, sedimentation, filtration and disinfection. Recent completed improvements to the treatment process include the replacement of five pumps and the addition of a sixth pump for redundancy at the low-lift pumping station, which pumps chlorinated filtered water from the gravity filters to the on-site clearwells/storage tanks. Additionally, the HVAC system within the pump station and two gravity filters are also scheduled to be rehabilitated.

There are four ground storage tanks that store 24 million gallons of finished water for delivery to the system through the high service pump stations, primarily High Pressure Pump Station No. 2, which includes four 40.0 mgd pumps. In addition, High Pressure Pump Station No. 1 is used exclusively at night due to the low flow evening demands and in conjunction with High Pressure Pump Station No. 2 during the day and during high demand periods. Improvements to the ventilation system in the pump station to minimize the heat build-up from the Variable Frequency Drives in the High Pressure Pump Stations were completed as part of the most recent CIP, and, as such, these stations are in good condition. Furthermore, repairs to the maintenance coating of the interior and exterior of the treated water storage tanks were also completed in the most recent CIP. Accordingly, the on-site storage tanks appear to be in good condition.

In case of an emergency, the WTP has five 1,750 kilowatt (“kW”) standby generators that are capable of supplying enough power to operate the entire plant. These generators were installed in the mid-2000’s and are in good condition.

As mentioned in Section 2.2, based on a review of the water quality records, Moores Bridges WTP produces water that is in compliance with all Safe Drinking Water Act standards. Accordingly, recent equipment upgrades to the laboratory provide the City with the means to conduct all the necessary testing to maintain compliance with these standards.

In addition to the liquid stream processes, the plant also has solids handling facilities that consist of chemical conditioning, gravity thickening and plate and frame presses for manual dewatering of sludge. Dewatered cake solids are transported to the Southeastern Public Service Authority (the “SPSA”) regional landfill and local farms to be used as a soil conditioning aid. The City has a contract with the SPSA specifying that 95 percent of the City’s solid waste, including the Water Utility’s dewatered cake solids, can be delivered to the SPSA’s landfills. According to the City, the current

contract extends to 2018. Since the SPSA benefits by using the water treatment residuals as ground cover for its other solid wastes, Norfolk has negotiated reduced disposal charges for its delivered dewatered cake solids. In a separate contract with Southern Aggregates, the dewatered cake solids that are not delivered to the SPSA are beneficially reused and applied to farmland due to the high lime content that results from the lime addition required as part of the dewatering process. Solids are currently being dewatered via a contractor as part of a centrifuge dewatering upgrade project discussed below.

While it does show its age in some areas, the Moores Bridges WTP has been well maintained and is in good operating condition. As mentioned previously, Norfolk's treated water meets current water quality standards and is constantly tested at the plant's laboratory. All equipment and structures are regularly inspected and maintained, and records are well kept. With that said, the City is initiating improvements in some areas of the facility and other improvements are scheduled during the Study Period. These projects were authorized either under previously approved CIPs or are included in the current planned CIP for the Study Period.

*Sedimentation Basins 7 and 8 Upgrades* – This project is currently under construction as Norfolk has already replaced the drive motors for the flocculators for the two basins. Additional plans for this project include replacing the flocculators and baffles, as well as replacement of the sludge removal mechanisms in each basin. Furthermore, structural repairs will be completed to improve the integrity of the basin walls. This project has an estimated budget of \$2.2 million.

*Sedimentation Basins 2 through 6 Upgrades* – These upgrades will provide for new sludge removal systems for all five trains. An estimated budget of \$3.0 million has been approved in a previous CIP. The project is anticipated to start in FY2014.

*Filter Upgrades* – These upgrades will provide for the replacement of support gravel with new media retention caps and new media in all filters. This project also includes regrouting of the underdrains, where necessary. An estimated budget of \$2.0 million has been approved in a previous CIP and this project is currently ongoing.

*Centrifuge* – The previous system used plate presses to dewater sludge from the various treatment processes. These presses were old and worn and became inefficient. Therefore, Norfolk is replacing both of the plate presses with centrifuges. The most current CIP includes an estimated budget of \$3.6 million for this currently ongoing project which also includes the rehabilitation of three thickeners.

*Lime Feeder Improvements* – The WTP utilizes four lime feeders. Two have been replaced and the other two require replacement as well. Replacement of the lime feeders will provide better control of lime feed which is expected to improve finished water quality as well as daily operation and maintenance. This is part of the current CIP allocation for Moores Bridges Water Treatment Plant Upgrade.

*Miscellaneous Roof Repairs* – As part of the City's ongoing maintenance program, roof repairs are required on five buildings at the WTP. This project is included in the \$1.5 million allocated in the City's current CIP.

### 2.3.2.2 37<sup>th</sup> Street Water Treatment Plant

The 37<sup>th</sup> Street WTP was initially placed in service in 1922, and extensively renovated and expanded in 1942. The plant has a rated treatment capacity of 28.0 mgd. Raw water is supplied to the plant by two 36-inch pipelines from the Western Reservoir System. The plant is operated at a relatively constant production rate, and, according to the available water quality data, the facility produces drinking water well within all regulatory requirements.

The 37<sup>th</sup> Street WTP has a conventional treatment process consisting of coagulation, flocculation, sedimentation, filtration and disinfection. Recent renovations to the flocculation and sedimentation basins include concrete repairs and new flocculation and sludge collection equipment, as well as a new chemical feed facility and administration facilities (Phase I of the 37<sup>th</sup> Street WTP Upgrade Project). As part of these improvements, a sodium hypochlorite storage and feed system was installed for purposes of disinfection and reduction of potential safety hazards associated with handling chlorine gas in residential areas. Also, a sulfuric acid feed system was installed for raw water alkalinity adjustments. It should be noted that the previous shotcrete/resurfacing of the sedimentation basins and installation of the solids collection equipment (Trac-Vac™) and solids thickening equipment occurred in 1991.

The equipment to handle the water treatment waste solids is relatively new as it was installed within the last eight years. This facility consists of sludge receiving basins wet well and process transfer pumps, a polymer conditioning system, three rotary drum sludge thickeners, and a post-filtrate treatment system. The thickened solids are pumped through dedicated pipelines to the Virginia Initiative Plant, a nearby wastewater treatment facility owned by the Hampton Roads Sanitation District ("HRSD"), for incineration. The filtrate is re-treated by flocculation and sedimentation processes prior to being discharged to the HRSD sanitary sewer system.

Phase II of the of these improvements were recently completed and included significant structural repair of the concrete sedimentation basins, installation of new ferric coagulant storage and feed equipment, replacement of the solids collection system, lead paint abatement, installation of an additional backup emergency generator and construction of a surge control system for the raw water pipelines.

One of the original design features of the 37<sup>th</sup> Street WTP has the treated water clearwells located directly below the sedimentation basins. Minor contamination of the treated water could occur if the sedimentation basins should leak, and the current configuration would likely not meet with Virginia Department of Health approval for new plant construction today. As part of the City's Phased Planning Approach, the clearwells are scheduled to be converted to post-settling storage prior to filtration during Phase III of the plant upgrades, which are described below.

Phase III, which will begin construction during summer of 2013, will include new deep-bed gravity filters with granular activated carbon, an intermediate pump station and conversion of existing clearwells to post-sedimentation storage, replacement of the rapid mix facilities, a new UV disinfection system to reduce chlorine contact time and subsequent disinfection by-product formation and miscellaneous upgrades to other treatment facilities. A budget of \$25.0 million was allocated in a previous CIP for the Phase III Improvements which includes \$5 million for the UV addition was added in the current design.



Upon completion of the Phase III improvements, the primary 37<sup>th</sup> Street WTP treatment process should be in new or, at a minimum, good condition. Based on a visual inspection of the plant, these improvements are needed and appropriate considering the condition of the facilities they are replacing. With respect to solids handling and dewatering, based on current disposal costs of thickened sludge to HRSD, the City may consider new dewatering centrifuges in the future (similar to Moores Bridges) should the life-cycle economics justify those improvements.

### **2.3.3 Water Distribution and Storage Facilities**

During the past ten years, the largest peak usage of the Water System occurred in FY 2007 which recorded maximum day, Water System-wide usage of 86.5 mgd and average day usage of 66.0 mgd. In 2012, peak day water usage was 76.3 mgd, and average day was approximately 60.2 mgd.

To effectively distribute the treated water to its customers, Norfolk's Retail Service area distribution system includes two ground level storage tanks with pump stations, two elevated water storage tanks, and, according to City records, there are approximately 950 miles of water pipelines ranging in size from 2 to 60 inches, 17,500 water valves and 4,700 hydrants in the distribution system. The Retail Service distribution system's storage tanks and pump stations were observed to be in generally good condition. Most recently, the City made improvements to the foundation of the Little Creek Tank to reduce leakage from the tank. In addition, the pumps at both of the City's booster pumping stations have been recently rehabilitated and are in good condition. Finally, the Ocean View and Berkley elevated storage tanks were recently painted and pump station for each tank are under construction.

However, the generator at the Little Creek Pump Station is not operational and will need to be replaced if the City chooses to provide back-up power at this facility which is included in the City's CIP. At this time, treated water can be delivered in this area without the Little Creek Pump Station and, as such, the City has no immediate plans to replace this generator.

The City operates a centralized Water Distribution Maintenance Facility located at Ballentine Boulevard. This facility contains administrative offices and records storage; a parts and materials storehouse; a pipe, valve and hydrant storage yard; a meter and hydrant repair shop; and equipment storage facilities for work crews.

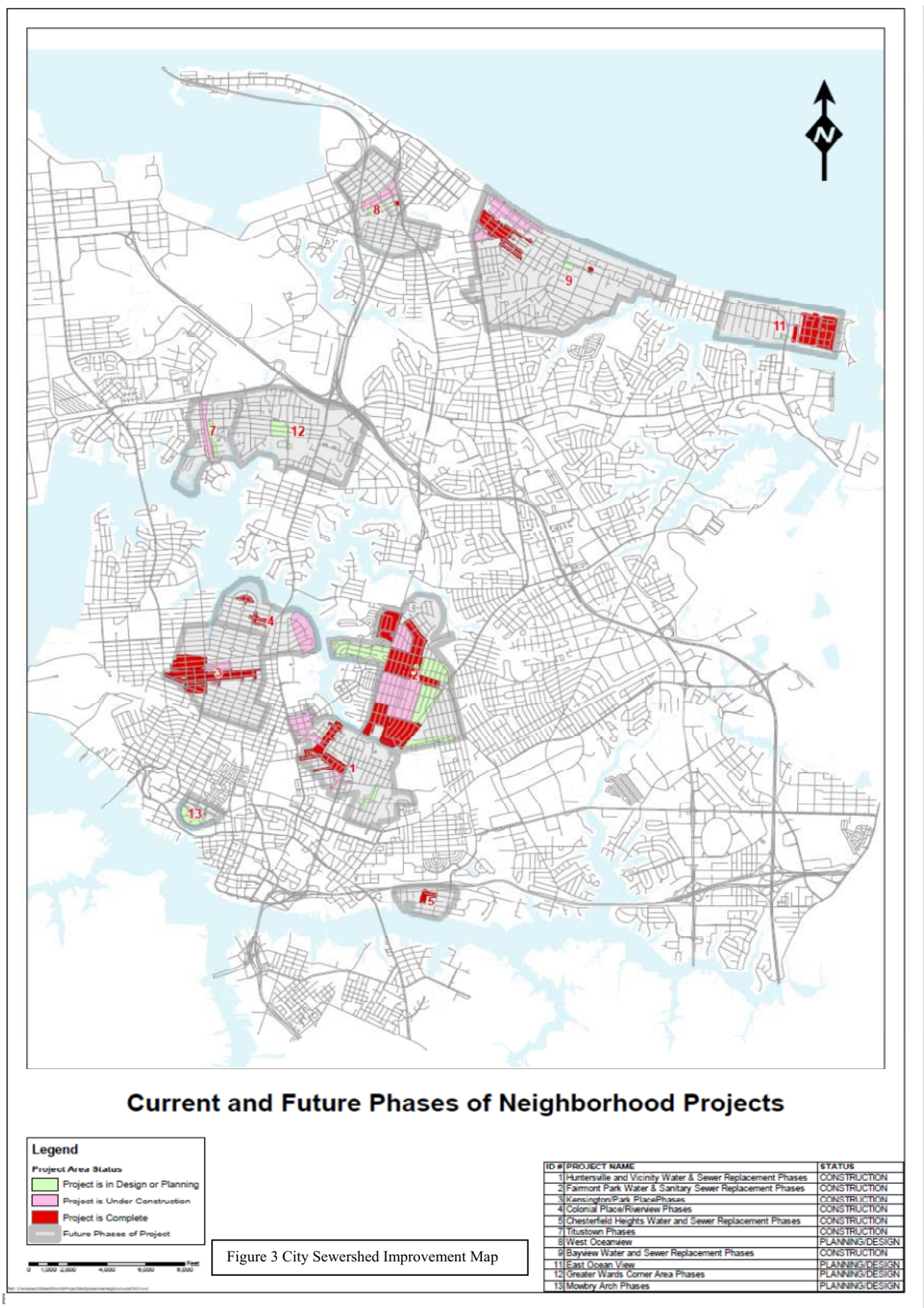
Generally, the City's distribution system repair and replacement program is both proactive and reactive. The City maintains an appropriate budget for emergency repairs that arise through the year, but the majority of the distribution system improvements are associated with the Long-Term Control Plan developed for the sewer system. Initiated in 2004, as part of a Consent Order, the City began a 15 to 20 year program to repair, rehabilitate, and/or replace much of its critical sewer system infrastructure. As improvements to the sewer system are implemented throughout the City, the water lines in the same service area are also replaced. As a result, the majority of the Retail water line replacement work is proactive as it coincides with sewer improvements that are part of the City's Long-Term Control Plan.

As a result, the Retail distribution network (i.e., pipes smaller than 12-inches in diameter) is either in good or adequate condition, or the pipes are scheduled for replacement as part of the Consent Order work on the sewer system as noted above. As such, Norfolk's capital program contains distribution system projects to help address identified deficiencies. Furthermore, as the Long-Term

Control Plan is implemented for the sewer system, the Retail distribution system will likely become much more reliable.

Based on the infrequency of major transmission failures, Norfolk's treated water transmission mains (i.e., pipes 12-inches and larger) are considered to be in good to adequate operating condition. As noted previously, a portion of the approximate \$11.4 million budget allocated annually for transmission and distribution improvements in the CIP will be utilized on the Retail Service component of the Water System. However, much of this work will be prioritized by the City based on the activities under the Long-Term Control Plan. Figure 3 below shows the area of the City where the sewershed improvements have already been completed, are planned in the relatively near future or are still pending further study as part of the Long-Term Control Plan.





In addition, CIP projects for instituting an Automated Meter Reading system and the associated meter change out are initiated in the City's CIP as updating the billing system. Automated meter reading is becoming a standard operating practice for most water utilities and with an updated billing system will likely pay for itself within a few years. Further, the City has instituted a program of replacing master meters over the next few years. Since most meters read low as they age, the replacement of the master meters should improve the City's revenue stream.

## 2.4 FY 2013 THROUGH FY 2017 PLANNED IMPROVEMENTS

This section summarizes planned improvements identified in Norfolk's FY 2013 through FY 2017 CIP, and totals over \$97 million as shown in Table 1, Line 13. The CIP represents the maximum amount approved or planned for each new or ongoing project, all of which appear to be appropriate and needed. The capital expenditure estimates provided by Norfolk contain reasonable allowances for construction, legal, and administrative costs for the identified projects.

**Table 1**  
**Capital Improvement Program**  
**Fiscal Year Ending June 30,**

| Line No.              | Description                                            | Approved            | Planned           |                   |                   |                   | Total             |
|-----------------------|--------------------------------------------------------|---------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                       |                                                        | 2013 <sup>(1)</sup> | 2014              | 2015              | 2016              | 2017              | 2013 - 2017       |
|                       |                                                        | \$                  | \$                | \$                | \$                | \$                | \$                |
| <b>Water Projects</b> |                                                        |                     |                   |                   |                   |                   |                   |
| 1                     | Comply with Safe Drinking Water Act Amendments         | -                   | 80,000            | 160,000           | 50,000            | -                 | 290,000           |
| 2                     | Design & Construct 37 <sup>th</sup> Street Plant       | -                   | -                 | 5,000,000         | -                 | -                 | 5,000,000         |
| 3                     | Implement Automated Meter Reading System               | -                   | 300,000           | -                 | -                 | -                 | 300,000           |
| 4                     | Implement Meter Change-Out Program                     | -                   | 150,000           | 150,000           | 150,000           | 150,000           | 600,000           |
| 5                     | Improve Little Creek Dam                               | 200,000             | -                 | -                 | -                 | -                 | 200,000           |
| 6                     | Install Generator at Little Creek Booster Pump Station | -                   | 150,000           | -                 | -                 | -                 | 150,000           |
| 7                     | Rehabilitate Reservoirs System Wide                    | 275,000             | -                 | -                 | -                 | 500,000           | 775,000           |
| 8                     | Replace Master Meters                                  | 120,000             | -                 | 120,000           | -                 | 120,000           | 360,000           |
| 9                     | Replace Spillway on Lake Taylor Dam                    | 75,000              | -                 | -                 | -                 | -                 | 75,000            |
| 10                    | Replace or Rehabilitate Water Pipelines                | 18,200,000          | 18,200,000        | 18,200,000        | 18,200,000        | 12,000,000        | 84,800,000        |
| 11                    | Upgrade Moores Bridges Water Treatment Plant           | -                   | 1,500,000         | -                 | -                 | 3,000,000         | 4,500,000         |
| 12                    | Upgrade Northstar Billing System                       | -                   | 300,000           | -                 | -                 | -                 | 300,000           |
| 13                    | <b>Total Approved Capital Program</b>                  | <b>18,870,000</b>   | <b>20,680,000</b> | <b>23,630,000</b> | <b>18,400,000</b> | <b>15,770,000</b> | <b>97,350,000</b> |

<sup>(1)</sup> 2013 Projects authorized by City Council as part of the FY 2013 CIP budget process.

## 2.5 SUMMARY

Norfolk's Water System, as it exists, can be expected to provide adequate capacity to meet demand throughout the Study Period. Norfolk's treated water currently meets all physical, chemical, radiological and bacteriological water quality standards established by Federal and State regulations. The Department of Utilities is actively planning and implementing improvements to Norfolk's water treatment facilities to meet current regulations and proposed amendments to the 1986 Safe Drinking Water Act. The City has initiated projects to upgrade dated facilities, provide redundancy and for the handling and disposal of residuals from the water treatment plants in an environmentally sound manner. The CIP expenditure estimates contained in this Report reflect allowances to reasonably recognize costs of meeting the current and anticipated near-term regulatory agency rules and regulations.

The Department's management strategies relating to facilities maintenance, with emphasis on preventive and predictive maintenance practices, continues to grow; and computer-based maintenance management systems have been or are being implemented. Current staffing levels

appear to be adequate to maintain and operate the facilities. Operator training appears to be sufficient at all levels.

The CIP for FY 2013 through FY 2017, with project costs totaling an estimated \$97,350,000, appears to adequately address necessary Water System facility renovations and upgrades. The program sufficiently addresses current and proposed Federal and State regulations regarding safe drinking water, dam safety and environmental protection. While there are some potential contaminants that may be incorporated into future Safe Drinking Water Act amendments, there are no pending regulations that appear to impact the improvements planned in the CIP.

Overall, Norfolk's Water System is well-managed; is in good operating condition, with areas of deficiency being addressed in the proposed CIP; and, is coupled with the CIP is capable of providing safe and reliable drinking water to its customers for the foreseeable future. The primary challenge into the future will be the condition of the retail distribution system, which is being addressed as the planned, system-wide sewershed improvements are being conducted.

## 3.0 Financial Requirements

### 3.1 REVENUES AND OPERATING EXPENSES

Observations regarding historical trends and projections are based upon analysis of five years of history (FY 2008 through FY 2012) in conjunction with interviews and review of Water Utility operational data and judgment based on experience working with similar water utilities.

#### 3.1.1 Metered Accounts

Norfolk provides treated water service to customer groups or classes, including service on a retail basis within the City limits and on a wholesale basis to the U.S. Navy, Virginia Beach and Chesapeake. Retail Service is provided through metered connections to the transmission and distribution system within Norfolk's City limits. Wholesale Service is provided through master metered connections to the transmission system.

Norfolk also provides metered raw water service on a wholesale basis to the U.S. Navy, Chesapeake and the Western Tidewater Water Authority (WTWA). The City also provides emergency raw water to Portsmouth and to Navy-Craney Island. Raw water service is provided through master metered connections to the raw water transmission system.

##### 3.1.1.1 Retail

Metered accounts for Norfolk Retail Service have increased from 65,393 accounts in FY 2008 to 65,917 accounts in FY 2012. The number of Norfolk metered accounts declined slightly between 2010 and 2011 but has increased over the historic period with an annual average growth of 0.2 percent per year. Norfolk is a mature city which is essentially fully developed. However, the renovations of properties in the downtown area and other redevelopment initiatives throughout the City have produced a slight increase in Norfolk's Retail Service accounts. Retail metered accounts are projected to remain constant at the FY 2012 level of 65,917 accounts through FY 2017.

Norfolk's fire protection accounts have increased from 748 in FY 2008 to 813 in FY 2012, or about 2.1 percent per year. Fire protection accounts are projected to remain constant at the FY 2012 level of 813 accounts through FY 2017.

##### 3.1.1.2 Virginia Beach

Historical records indicate Virginia Beach accounts have remained stable at 31 metered accounts from FY 2008 through FY 2012. Virginia Beach's metered accounts are projected to remain at 31 accounts through FY 2017.

The City treats Virginia Beach's water under a Water Services Contract which expires on June 30, 2030. Under this Contract, the City treats, stores, pumps and transports treated water to the metered points of delivery for the Virginia Beach distribution system. See Appendix E to the Official Statement for further details on the Contract with Virginia Beach.

##### 3.1.1.3 U.S. Navy

The Norfolk area has the largest concentration of naval installations in the world, with headquarters for the Atlantic Fleet, the Norfolk Naval Base, and other major naval commands. The naval presence in the Norfolk area has a significant impact on the local economy and consequently

on the revenues and expenditures of local government. Historically, the net effect of the naval presence, attributable to the large local naval payroll and substantial expenditures for goods and services, has been to stabilize the economy in the Norfolk area.

The U.S. Navy metered accounts declined from 62 accounts in FY 2008 to 59 accounts in FY 2012. The Navy's metered accounts are projected to remain constant at 59 accounts through FY 2017.

The City has provided treated water to the U.S. Navy since 1981. The latest contract to provide wholesale service to the U.S. Navy expired on June 30, 2011. The U.S. Navy and the City are in the process of negotiating a wholesale service contract. As the negotiations are on-going, wholesale service is being provided under 6-month contract extensions. The U.S. Navy and City entered a 6-month contract extension expiring December 30, 2012, and are in the process of completing a second extension expiring March 30, 2013. Short-term contracts are preferred by the U.S. Navy, which represents the oldest wholesale water customer of the Water System. See Appendix E to the Official Statement for further details on the Contract with the U.S. Navy.

#### **3.1.1.4 Chesapeake**

Norfolk provides both treated water and raw water services to Chesapeake.

Chesapeake treated water metered accounts increased from 31 accounts in FY 2008 to 34 accounts in FY 2012. Chesapeake's treated water metered accounts are anticipated to remain constant at 34 accounts through FY 2017. Treated water sold to Chesapeake is not subject to a separate contract.

Chesapeake raw water service is currently provided through one master meter site. No additional meter sites are anticipated for the raw water service during the Study Period.

The City entered into a Raw Water Sales Contract with Chesapeake in December 2002 which expires on December 31, 2042. The City began providing raw water to Chesapeake on July 1, 2006. The City agreed to provide a target amount of 7.0 mgd of raw water to Chesapeake which is the take or pay minimum. The target amount can be adjusted based on the request of Chesapeake and agreed upon by the City. The City may reduce the target amount if one of the following conditions occurs:

- Decrease Surplus Water Supply;
- Facility or Equipment Failure;
- Drought;
- Contamination; or,
- Force Majeure.

The City may also terminate the Contract if Chesapeake does not pay in full within 60 days from the date of a receipt for payment; or Chesapeake willfully breaches the Contract which significantly impacts the operation of the Contract. Chesapeake may terminate the contract if the City willfully breaches any term of the Contract or the City delivers less than the difference of the target amount less 0.75 mgd for more than 6 consecutive billing periods.

Under the terms of this Contract, the City also agrees to continue selling no less than 2.0 mgd of treated water for the length of the Raw Water Sales Contract.

#### **3.1.1.5 Western Tidewater Water Authority**

During FY 2009, Norfolk entered into a contract to provide raw water services to WTWA, which includes the City of Suffolk and Isle of Wight County. Raw water sales to WTWA are anticipated to be provided at one master meter site, with delivery of water anticipated to begin in FY 2014. No additional raw water service sites are anticipated during the Study Period.

The Contract for Services with WTWA is a take or pay agreement with a required minimum volume purchase and is set to expire in June 2048. For the purposes of this analysis, WTWA was considered an account beginning in FY 2009, as they began paying an annual reservation fee in anticipation of water service according to the terms of the Contract.

#### **3.1.1.6 Raw Water Accounts**

The City provides emergency raw water to Portsmouth and to Navy-Craney Island, each with one master meter. No additional accounts are forecasted during the Study Period.

In 2002, the City entered into an emergency Raw Water Service Contract with Portsmouth. The “Start-up Date” for this Contract was September 11, 2007.

#### **3.1.1.7 Historical and Projected Accounts**

Table 2 presents the historical and projected water metered accounts by each customer class. As noted on Line 9, total metered water accounts are projected to remain stable during the Study Period.

**Table 2**  
**Historical and Projected Water Metered Accounts By Customer Class**  
**Fiscal Year Ending June 30,**

| Line No.     | Description                       | Historical    |               |               |               |               | Projected     |               |               |               |               |
|--------------|-----------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|              |                                   | 2008          | 2009          | 2010          | 2011          | 2012          | 2013          | 2014          | 2015          | 2016          | 2017          |
| <b>Water</b> |                                   |               |               |               |               |               |               |               |               |               |               |
| 1            | Norfolk Retail                    | 65,393        | 65,550        | 66,140        | 65,840        | 65,917        | 65,917        | 65,917        | 65,917        | 65,917        | 65,917        |
| 2            | Norfolk Fire Protection           | 748           | 778           | 793           | 804           | 813           | 813           | 813           | 813           | 813           | 813           |
| 3            | Virginia Beach                    | 31            | 31            | 31            | 31            | 31            | 31            | 31            | 31            | 31            | 31            |
| 4            | U.S. Navy                         | 62            | 62            | 62            | 59            | 59            | 59            | 59            | 59            | 59            | 59            |
| 5            | Chesapeake - Treated Water        | 31            | 31            | 31            | 33            | 34            | 34            | 34            | 34            | 34            | 34            |
| 6            | Chesapeake - Raw Water            | 1             | 1             | 1             | 1             | 1             | 1             | 1             | 1             | 1             | 1             |
| 7            | Western Tidewater Water Authority | N/A           | 1             | 1             | 1             | 1             | 1             | 1             | 1             | 1             | 1             |
| 8            | Raw Water <sup>(1)</sup>          | 2             | 2             | 2             | 2             | 2             | 2             | 2             | 2             | 2             | 2             |
| 9            | <b>Total</b>                      | <b>66,268</b> | <b>66,456</b> | <b>67,061</b> | <b>66,771</b> | <b>66,858</b> | <b>66,858</b> | <b>66,858</b> | <b>66,858</b> | <b>66,858</b> | <b>66,858</b> |

<sup>(1)</sup> Includes Portsmouth emergency raw water and Navy-Craney Island raw water.



### 3.1.2 Water Sales Volumes

#### 3.1.2.1 Retail

Water sales for Norfolk Retail Service declined from approximately 9.4 million hundred cubic feet (“Ccf”) in FY 2008 to approximately 8.3 million Ccf in FY 2012, or about 3.0 percent per year. However, the majority of the decreased consumption occurred in FY 2009, and is associated primarily with the closure of the Norfolk Ford Motor Company Plant. After FY 2009, Norfolk Retail Service declined at a slower rate, and therefore customers’ overall usage is anticipated to remain constant at FY 2012 levels of approximately 8.3 million Ccf.

#### 3.1.2.2 Virginia Beach

Water sales to Virginia Beach have declined from approximately 17.4 million Ccf in FY 2008 to approximately 15.8 million Ccf in 2012, a decline of about 2.3 percent per year. Between FY 2011 and FY2012 water sales to Virginia Beach declined by 658,000 Ccf, a decline of approximately 4.0 percent. Much of the decline in demand from Virginia Beach can be attributed to economic conditions. Reports, including the Virginia Beach Economic Outlook by Moody’s, indicate the recession in Virginia Beach is milder than average, consistent with the state of Virginia. However, recovery has lagged both the nation and state. This lag can be attributed to federal cuts and reduction in defense spending. While there is potential for further development in the region, particularly in the Courthouse/Sandbridge area and the Kempsville and Holland areas, no growth in Virginia Beach’s usage is projected over the projection period.

#### 3.1.2.3 U.S. Navy

The decline in U.S. Navy treated water usage, from 2.2 million Ccf in FY 2008 to 1.9 million Ccf in FY 2012, or about 2.6 percent per year, is primarily due to the Navy’s ongoing water conservation efforts. While the overall trend of Navy treated water usage has decline between 2008 and 2012, usage increased in FY 2011. Even though it is anticipated that the U.S. Navy will continue to pursue water conservation measures, it is expected that the U.S. Navy’s usage will remain constant at FY 2012 levels throughout the projection period.

#### 3.1.2.4 Chesapeake

Norfolk provides both treated water and raw water services to Chesapeake.

Treated water sales to Chesapeake were relatively stable between FY 2008 and FY 2010, however, consumption declined from 1.6 million Ccf in FY 2010 to 1.1 million Ccf in FY 2012. Demand from Chesapeake did increase, however, by 6.6% between FY 2011 and 2012. Chesapeake’s treated water usage is anticipated to continue to increase at 1.0 percent per year, to 1.2 million Ccf in FY 2017. This level of growth is consistent with Chesapeake’s population growth over the last ten years.

Raw water sales to Chesapeake have remained stable at nearly 3.5 million Ccf, just over the 7.0 mgd minimum (about 3.4 million Ccf) requirement of the Raw Water Sales Contract. Chesapeake’s raw water usage is anticipated to be 3.4 million Ccf (approximately 7.0 mgd) over the projection period, consistent with the contractual minimum “take or pay” amount of 7.0 mgd.



#### **3.1.2.5 Western Tidewater Water Authority**

Norfolk has contracted with the WTWA to provide raw water services beginning in FY 2014. Initial quantities are expected to be about 1.5 million Ccf per year, based on contractual minimums of 3.0 mgd (about 1.46 million Ccf) through FY 2015. Starting in FY 2016, the minimum level of service is projected to increase by 1.0 mgd every two years, reaching 15.0 mgd by FY 2038.

#### **3.1.2.6 Raw Water Accounts**

Historical raw water sales to the Navy-Craney Island and Portsmouth are related to emergency connections and are negligible over the historic period. For planning purposes the projected sales volumes exclude raw water sales to Navy-Craney Island and Portsmouth.

#### **3.1.2.7 Historical and Projected Water Usage**

Table 3 presents the historical and projected water usage by each customer class. Total water use, regardless of supply source, is projected to increase from 30.7 million Ccf in FY 2012 to 32.6 million Ccf in FY 2017, the increase primarily a result of the future raw water sales to the WTWA. As noted previously, water use dropped nearly 9 percent between FY 2008 and FY 2009, which is related to the closure of the Norfolk Ford Motor Company Plant and emergency water use by Portsmouth in FY 2008. Billed water use between FY 2010 and FY 2012 continues to decline but at a slower rate of approximately 1.8 percent per year. Projected water sales over the projection period are anticipated to be relatively flat with exception of additional raw water flows associated with new sales to WTWA.

**Table 3**  
**Historical and Projected Usage By Customer Class**  
**Fiscal Year Ending June 30,**

| Line No.     | Description                       | Historical        |                   |                   |                   |                   | Projected         |                   |                   |                   |                   |
|--------------|-----------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|              |                                   | 2008              | 2009              | 2010              | 2011              | 2012              | 2013              | 2014              | 2015              | 2016              | 2017              |
|              |                                   | Ccf               | Ccf               | Ccf               | Ccf               | Ccf               | Ccf               | Ccf               | Ccf               | Ccf               | Ccf               |
| <b>Water</b> |                                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| 1            | Norfolk                           | 9,440,582         | 8,860,213         | 8,599,532         | 8,505,305         | 8,336,214         | 8,300,000         | 8,300,000         | 8,300,000         | 8,300,000         | 8,300,000         |
| 2            | Virginia Beach                    | 17,379,445        | 16,502,799        | 16,295,615        | 16,454,006        | 15,795,733        | 15,796,000        | 15,796,000        | 15,796,000        | 15,796,000        | 15,796,000        |
| 3            | U.S. Navy                         | 2,171,512         | 2,053,288         | 1,977,195         | 2,088,552         | 1,943,757         | 1,945,000         | 1,945,000         | 1,945,000         | 1,945,000         | 1,945,000         |
| 4            | Chesapeake - Treated Water        | 1,535,916         | 1,580,157         | 1,577,302         | 1,073,874         | 1,144,849         | 1,156,000         | 1,168,000         | 1,180,000         | 1,191,000         | 1,203,000         |
| 5            | Chesapeake - Raw Water            | 3,533,556         | 3,470,989         | 3,476,738         | 3,471,417         | 3,525,883         | 3,416,000         | 3,416,000         | 3,416,000         | 3,416,000         | 3,416,000         |
| 6            | Western Tidewater Water Authority | N/A               | N/A               | N/A               | N/A               | N/A               | N/A               | 1,464,000         | 1,464,000         | 1,952,000         | 1,952,000         |
| 7            | Portsmouth - Raw Water            | 1,633,632         | -                 | -                 | 117,820           | -                 | -                 | -                 | -                 | -                 | -                 |
| 8            | <b>Total</b>                      | <b>35,694,643</b> | <b>32,467,446</b> | <b>31,926,382</b> | <b>31,593,154</b> | <b>30,746,436</b> | <b>30,613,000</b> | <b>32,089,000</b> | <b>32,101,000</b> | <b>32,600,000</b> | <b>32,612,000</b> |

### 3.1.3 Water Revenue

#### 3.1.3.1 Retail

Norfolk's Retail Rate structure consists of a monthly water service charge and a uniform commodity rate. Effective FY 2013, which began July 1, 2012, the monthly Water Account Service Charge is \$1.00 and the Water Rate is \$4.15 per Ccf.

Projected revenues under existing rates for Retail Service are based on the adopted rates for FY 2013, projected number of metered Retail water accounts and the projected annual usage.

Norfolk also charges for fire protection, with rates that vary by the size of connection. This revenue is approximately \$471,000 in FY 2012 and is projected to remain at this level through FY 2017.

#### 3.1.3.2 U.S. Navy

In January 2008, Norfolk and the U.S. Navy agreed to a three-year renewal of the existing Water Services Contract which established the U.S. Navy water rates as the Retail Rates plus ten percent. Upon expiration of this agreement the U.S. Navy and City have been in on-going rate negotiations. As the negotiations are on-going, wholesale service is being provided under 6-month contract extensions which continue the U.S. Navy rate at the Retail Rates plus ten percent. The U.S. Navy and the City entered a 6-month contract extension expiring December 30, 2012, and are in the process of completing a second extension expiring March 30, 2013. Effective July 1, 2012, the U.S. Navy's FY 2013 water rate is \$4.57 per Ccf.

Projected revenues under existing rates for the U.S. Navy are based on the adopted rates for FY 2013, and the projected annual usage.

#### 3.1.3.3 Virginia Beach

The water charges to Virginia Beach are based on the provisions of the Water Services Contract. The Water Services Contract (the "Contract") established a three part charge consisting of:

- **Fixed Capacity Charge** to recover annual return on allocated rate base and a proportional share of annual depreciation expense. The annual total is to be paid to Norfolk in twelve equal monthly payments.
- **Demand Charge** to recover the allocated annual share of demand-related, relatively fixed operation and maintenance ("O&M") expenses. The annual total is to be paid to Norfolk by Virginia Beach in twelve equal monthly payments.
- **Commodity Charge** to recover variable operating costs associated with the production and delivery of treated water. The charge is to be applied to monthly metered water usage.

Virginia Beach rate adjustments are formula driven under the Contract. For example, Norfolk projects Virginia Beach rates for two years based on projected costs and demands using the methodology established by the Contract. Before the end of the second year of each two-year rate period, Norfolk will project rates for the subsequent two-year period. Within six months of the close of the recently completed two-year rate period, Norfolk will recalculate annual rate revenues for that period using the Contract methodology, the Water System's operations and audited costs. The cumulative differences in invoiced and actual annual rate revenues for the recently completed

two-year period will be applied to the second year water service billing. During that second year of projected rates, one-twelfth of the total “true-up” results (either as an addition or subtraction) is applied to each monthly invoiced amount which has been computed using the then current projected rates in effect and actual Virginia Beach water usage. This cycle of biennial projection and “true-up” of Virginia Beach rates will continue for the life of the Contract.

Projected revenues under existing rates for Virginia Beach are based on rates and terms of the Contract. Per the Contract formula, the Fixed Capacity Charge is determined using the City’s Embedded Interest Rate for the Water Fund. The City completed a Water Revenue Bond Refunding in FY 2012 which, in addition to annual savings in debt service, reduced the Water Fund’s Embedded Interest Rate. Projected revenues under existing rates for Virginia Beach are adjusted to reflect anticipated changes resulting from this refunding and assume that the FY 2013 through FY 2017 estimated revenues are generally commensurate with projected costs. Therefore, no additional true-up adjustments are forecasted during the Study Period.

#### **3.1.3.4 Chesapeake**

The Chesapeake treated water rate is established by City ordinance. Effective July 1, 2012, the FY 2013 Chesapeake treated water rate is \$4.25 per Ccf.

The Chesapeake raw water rate is established by the Raw Water Sales Contract initiated in FY 2003. Under the terms of the Contract, the water rate is adjusted annually based upon the greater of the current rate or the current rate modified to reflect the Consumer Price Index (“CPI”) adjustment factor. Effective July 1, 2012, the FY 2013 Chesapeake raw water rate is \$0.91 per Ccf.

Projected revenues under existing rates for Chesapeake are based on the adopted rates for FY 2013, and the projected annual treated water and raw water usage.

#### **3.1.3.5 Western Tidewater Water Authority**

The WTWA raw water rate is established by the Raw Water Sales Agreement. The charges under the Agreement executed in FY 2009 consist of a reservation charge and a commodity charge. Until FY 2014, charges for service are limited to a reservation fee in anticipation of water delivery. Upon delivery of water in FY 2014, charges will include both a monthly commodity charge, as well as a reservation charge that acknowledges the WTWA’s ability to obtain additional quantities of water in future periods. The reservation charge is based on a schedule of quantities that generally declines over time as the minimum amount of purchased water increases. Volume rates under the Agreement are increased annually in accordance with CPI increases. Effective July 1, 2012, the FY 2013 raw water rate is \$0.91 per Ccf.

Projected revenues under existing rates for the WTWA are based on the adopted rates for FY 2013, the reserved raw water contract demands, and the projected raw water usage.

#### **3.1.3.6 Raw Water Accounts**

In FY 2008 and in FY2011, the City received \$1.3 million and \$181,000 respectively from Portsmouth for emergency raw water sales. Since raw water is provided on an emergency basis, no revenue is projected during the remainder of the Study Period. Historical revenue associated with the raw water sales to the Navy-Craney Island is negligible. For planning purposes no revenue from raw water sales to Navy-Craney Island is projected during the Study Period.

### 3.1.3.7 Historical and Projected Water Sales Revenues

Table 4 shows historical and projected water sales revenues under existing rates during the period FY 2008 through FY 2017. These revenue projections were determined by applying the projection of customer metered accounts from Table 2 and usage by customer class from Table 3 to the respective schedule of existing treated and raw water rates. The City completes a biennial rate review with Virginia Beach based on estimated costs. As shown on Line 16 of Table 4, some level of adjustment or “true-up” has resulted from these reviews. Projections of Virginia Beach revenue take into account anticipated revenue changes and true-ups resulting from recent changes to the Water Fund’s Embedded Interest Rate.

Historical and projected Water Utility Other Operating Revenues are shown in Table 5 for FY 2008 through FY 2017. Sources of Other Operating Revenue include Inspection Fees, Account Set-Up Fees, Meter Tests and Penalties, Finance Charges and Miscellaneous Fees. This revenue stream overall has been somewhat erratic due to changes in bad debt recovery (Line 4). Excluding this item, other revenue has ranged from \$2.0 million to \$2.2 million between FY 2008 through FY 2012. Based on a review of historical levels and anticipated levels of development and growth, Other Operating Revenue is projected to remain stable at \$2.0 million per year during the Study Period.

Non-operating revenue consists of interest earnings on available operating and certain restricted funds. Interest Income projections are based on an interest rate of 0.5 percent in FY 2013 times the average of the beginning and ending year balances in the Operating Fund, Capital Projects Fund, Rate Stabilization Fund, General Reserve Fund and the Repair and Replacement Reserve Fund. Each year thereafter, the interest rate is projected to increase by 0.25 percent, achieving a projected interest rate of 1.5 percent in FY 2017. Study Period projections are included subsequently in Table 8 and Table 10.

**Table 4**  
**Historical and Projected Water Sales Revenue Under Existing Rates**  
**Fiscal Year Ending June 30,**

| Line No.                      | Description                                      | Historical  |            |            |            |            | Projected  |            |            |            |            |
|-------------------------------|--------------------------------------------------|-------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
|                               |                                                  | 2008        | 2009       | 2010       | 2011       | 2012       | 2013       | 2014       | 2015       | 2016       | 2017       |
|                               |                                                  | \$          | \$         | \$         | \$         | \$         | \$         | \$         | \$         | \$         | \$         |
| <b>Fixed Charges</b>          |                                                  |             |            |            |            |            |            |            |            |            |            |
| 1                             | Norfolk Retail                                   | 786,216     | 789,580    | 782,944    | 781,355    | 776,157    | 791,000    | 791,000    | 791,000    | 791,000    | 791,000    |
| 2                             | Norfolk Fire Protection                          | 419,134     | 447,551    | 444,677    | 463,578    | 470,730    | 471,000    | 471,000    | 471,000    | 471,000    | 471,000    |
| 3                             | Total Fixed Charges                              | 1,205,350   | 1,237,131  | 1,227,621  | 1,244,933  | 1,246,887  | 1,262,000  | 1,262,000  | 1,262,000  | 1,262,000  | 1,262,000  |
| <b>Usage Charges</b>          |                                                  |             |            |            |            |            |            |            |            |            |            |
| 4                             | Norfolk Retail                                   | 32,531,470  | 32,057,567 | 32,173,283 | 33,247,420 | 33,536,662 | 34,445,000 | 34,445,000 | 34,445,000 | 34,445,000 | 34,445,000 |
| 5                             | U.S. Navy                                        | 8,318,612   | 8,122,460  | 8,107,730  | 8,836,936  | 8,534,182  | 8,889,000  | 8,889,000  | 8,889,000  | 8,889,000  | 8,889,000  |
| 6                             | Chesapeake - Treated Water                       | 5,460,656   | 5,860,288  | 6,048,208  | 4,298,981  | 4,691,118  | 4,913,000  | 4,964,000  | 5,015,000  | 5,062,000  | 5,113,000  |
| 7                             | Chesapeake - Raw Water                           | 2,686,913   | 2,884,280  | 2,992,142  | 2,989,952  | 3,090,236  | 3,109,000  | 3,109,000  | 3,109,000  | 3,109,000  | 3,109,000  |
| 8                             | Western Tidewater Water Authority <sup>(1)</sup> | N/A         | N/A        | 2,474,700  | 1,348,568  | 1,281,150  | 1,332,000  | 1,332,000  | 1,332,000  | 1,776,000  | 1,776,000  |
| 9                             | WTWA - Reservation Fee <sup>(2)</sup>            | N/A         | N/A        | N/A        | 504,000    | 1,024,920  | 1,066,000  | 1,177,000  | 1,332,000  | 1,221,000  | 1,221,000  |
| 10                            | Portsmouth - Raw Water <sup>(3)</sup>            | 1,323,247   | -          | -          | 181,140    | -          | -          | -          | -          | -          | -          |
| 11                            | Total Usage Charges                              | 50,320,898  | 48,924,595 | 51,796,063 | 51,406,997 | 52,158,268 | 53,754,000 | 53,916,000 | 54,122,000 | 54,502,000 | 54,553,000 |
| <b>Virginia Beach Revenue</b> |                                                  |             |            |            |            |            |            |            |            |            |            |
| Annual Charges                |                                                  |             |            |            |            |            |            |            |            |            |            |
| 12                            | Fixed Capacity Charge Revenue <sup>(4)</sup>     | 15,114,000  | 15,273,000 | 14,907,000 | 14,697,960 | 14,172,000 | 11,917,000 | 11,917,000 | 11,917,000 | 11,917,000 | 11,917,000 |
| 13                            | Demand Charge Revenue                            | 6,573,459   | 6,792,795  | 5,760,240  | 6,135,960  | 6,531,960  | 6,784,000  | 6,784,000  | 6,784,000  | 6,784,000  | 6,784,000  |
| 14                            | Commodity Charge Revenue                         | 3,270,768   | 3,190,984  | 4,283,244  | 4,507,030  | 4,649,274  | 4,897,000  | 4,897,000  | 4,897,000  | 4,897,000  | 4,897,000  |
| 15                            | Revenue Before True-up                           | 24,958,227  | 25,256,779 | 24,950,484 | 25,340,950 | 25,353,234 | 23,598,000 | 23,598,000 | 23,598,000 | 23,598,000 | 23,598,000 |
| 16                            | True-up <sup>(5)</sup>                           | (1,897,615) | -          | 1,791,766  | 3,361,943  | 165,780    | -          | -          | -          | -          | -          |
| 17                            | Estimated Revenue After True-up                  | 23,060,612  | 25,256,779 | 26,742,250 | 28,702,893 | 25,519,014 | 23,598,000 | 23,598,000 | 23,598,000 | 23,598,000 | 23,598,000 |
| 18                            | Total Water Sales Revenue                        | 74,586,860  | 75,418,505 | 79,765,934 | 81,354,823 | 78,924,169 | 78,614,000 | 78,776,000 | 78,982,000 | 79,362,000 | 79,413,000 |
| 19                            | % Change                                         | 2.77%       | 1.12%      | 5.76%      | 1.99%      | -2.99%     | -0.39%     | 0.21%      | 0.26%      | 0.48%      | 0.06%      |

<sup>(1)</sup> 2010 Western Tidewater Water Authority includes billing for 2010 and retroactive charges for 2009 in the amount of \$1,215,037.

<sup>(2)</sup> Reflects additional reservation fee for 12 mgd beginning in FY 2011, declining to 11 mgd in FY 2016.

<sup>(3)</sup> FY 2011 revenue results from use of emergency interconnect.

<sup>(4)</sup> FY 2013 includes adjustments that would be captured via the Virginia Beach True-up for FY 2013.

<sup>(5)</sup> Virginia Beach True-up, FY 2011 results from FY 2004 - FY 2007 adjustments.

**Table 5**  
**Historical and Projected Water Utility Other Operating Revenue**  
**Fiscal Year Ending June 30,**

| Line No.             | Description                        | Historical       |                  |                  |                  |                  | Projected        |                  |                  |                  |                  |
|----------------------|------------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|                      |                                    | 2008             | 2009             | 2010             | 2011             | 2012             | 2013             | 2014             | 2015             | 2016             | 2017             |
|                      |                                    | \$               | \$               | \$               | \$               | \$               | \$               | \$               | \$               | \$               | \$               |
| <b>Other Revenue</b> |                                    |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| 1                    | Fees-Cross Connection Inspection   | 18,975           | 19,275           | 16,050           | 15,175           | 17,100           | 29,400           | 29,400           | 29,400           | 29,400           | 29,400           |
| 2                    | Sale of Materials & Supplies-Store | (1,895)          | (38,060)         | (4,146)          | 1,329            | 410              | 17,000           | 17,000           | 17,000           | 17,000           | 17,000           |
| 3                    | Revenue-Other Miscellaneous        | 15,144           | 12,470           | 10,437           | 7,852            | 34,905           | 5,000            | 5,000            | 5,000            | 5,000            | 5,000            |
| 4                    | Bad Debt Recovery                  | 691              | -                | 366,423          | 66,060           | 57,547           | 10,000           | 10,000           | 10,000           | 10,000           | 10,000           |
| 5                    | Fees-Account Set-Up                | 242,785          | 254,820          | 264,409          | 273,980          | 278,440          | 276,000          | 276,000          | 276,000          | 276,000          | 276,000          |
| 6                    | Fees-Miscellaneous                 | 11,045           | 5,289            | 7,882            | 3,524            | 2,647            | 3,100            | 3,100            | 3,100            | 3,100            | 3,100            |
| 7                    | Meter Test & Penalties             | 14,295           | 111,085          | 122,595          | 120,887          | 145,899          | 141,000          | 141,000          | 141,000          | 141,000          | 141,000          |
| 8                    | Recovery Cost-Utilities            | 1,737,704        | 1,654,013        | 1,479,835        | 1,509,531        | 1,593,575        | 1,438,000        | 1,438,000        | 1,438,000        | 1,438,000        | 1,438,000        |
| 9                    | Finance Charges-Water Bills        | 17,867           | -                | -                | 64,079           | 76,007           | 85,600           | 85,600           | 85,600           | 85,600           | 85,600           |
| 10                   | Fees-Boat                          | 40,623           | 60,839           | 24,247           | 54,547           | 36,904           | 28,000           | 28,000           | 28,000           | 28,000           | 28,000           |
| 11                   | Fees-Tap                           | 21,756           | 51,192           | 90,421           | 37,819           | 32,869           | 20,000           | 20,000           | 20,000           | 20,000           | 20,000           |
| 12                   | <b>Total Other Revenue</b>         | <b>2,118,990</b> | <b>2,130,923</b> | <b>2,378,153</b> | <b>2,154,783</b> | <b>2,276,303</b> | <b>2,053,100</b> | <b>2,053,100</b> | <b>2,053,100</b> | <b>2,053,100</b> | <b>2,053,100</b> |
| 13                   | <b>% Change</b>                    | <b>-2.42%</b>    | <b>0.56%</b>     | <b>11.60%</b>    | <b>-9.39%</b>    | <b>5.64%</b>     | <b>-9.81%</b>    | <b>0.00%</b>     | <b>0.00%</b>     | <b>0.00%</b>     | <b>0.00%</b>     |

### 3.1.4 Operating Expenses

The Water Utility is responsible for the overall administration, engineering, construction, operation and maintenance of the Norfolk Water and Sewer Systems. Funding of the direct and indirect costs is provided through the City's Water Utility Enterprise Fund (the "Water Fund").

For the purposes of this Report, O&M expenses exclude payment in lieu of taxes ("PILOT"), and payment to the City's General Fund for the City's Return on Investment ("ROI").

Organizationally, the Water Utility is divided into the following seven Divisions:

- **Director's Office** provides the administration and management of the Water and Sewer Systems;
- **Accounting and Budget** provides the accounting, budgeting, and financial recordkeeping and reporting for the Water Fund;
- **Water Accounts** provides the Water and Sewer System customer billing, collections and customer service;
- **Water Quality** provides the Moores Bridges and 37<sup>th</sup> Street WTPs laboratory testing and regulatory agency reporting requirements;
- **Water Production** provides the operation and maintenance of the raw water pumping and transmission, water treatment and treated water storage and pumping facilities;
- **Engineering** provides for the planning, design and engineering management of the Water and Sewer Systems capital improvements; and
- **Water Distribution** provides for the operation and maintenance of the water transmission and distribution system facilities.

The Water Fund historical and projected O&M expenses are shown in Table 6 for FY 2008 through FY 2017. Historical O&M expenses are summarized from the Water Fund's documents supporting the City's audited financial statements.



**Table 6**  
**Historical and Projected City of Norfolk Water Operation and Maintenance Expenditures**  
**Fiscal Year Ending June 30,**

| Line No. | Description                            | Historical |            |            |            |            | Projected  |            |            |            |            |
|----------|----------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
|          |                                        | 2008       | 2009       | 2010       | 2011       | 2012       | 2013       | 2014       | 2015       | 2016       | 2017       |
|          |                                        | \$         | \$         | \$         | \$         | \$         | \$         | \$         | \$         | \$         | \$         |
| 1        | Salaries & Wages                       | 11,899,572 | 12,678,236 | 12,803,765 | 13,138,810 | 12,294,377 | 13,122,000 | 13,450,000 | 13,786,000 | 14,131,000 | 14,484,000 |
| 2        | Health & Benefits                      | 1,220,574  | 1,294,580  | 1,481,117  | 1,564,517  | 1,488,671  | 1,633,000  | 1,796,000  | 1,976,000  | 2,174,000  | 2,391,000  |
| 3        | Plant Operations                       | 6,625,810  | 6,844,241  | 5,896,843  | 6,493,701  | 6,589,857  | 7,122,000  | 7,407,000  | 7,703,000  | 8,011,000  | 8,331,000  |
| 4        | Chemicals                              | 3,446,908  | 4,963,652  | 3,761,744  | 3,524,658  | 2,967,518  | 3,701,000  | 3,849,000  | 4,003,000  | 4,163,000  | 4,330,000  |
| 5        | Provision for Bad Debts <sup>(1)</sup> | 710,185    | 419,459    | 301,294    | 429,970    | 230,670    | 352,000    | 365,000    | 377,000    | 391,000    | 404,000    |
| 6        | Retirement Contribution                | 1,144,608  | 2,126,353  | 2,170,730  | 2,770,254  | 2,629,548  | 2,630,000  | 2,709,000  | 2,790,000  | 2,874,000  | 2,960,000  |
| 7        | Other Post Employment Benefits         | 351,508    | 114,492    | 364,437    | 369,128    | 327,453    | 300,000    | 309,000    | 318,000    | 328,000    | 338,000    |
| 8        | Administrative Expenses <sup>(2)</sup> | 1,809,616  | 1,710,050  | 1,563,029  | 2,263,435  | 1,852,927  | 1,917,000  | 1,975,000  | 2,034,000  | 2,095,000  | 2,158,000  |
| 9        | Other <sup>(3)</sup>                   | 9,817,747  | 8,031,310  | 6,244,782  | 6,514,280  | 6,286,503  | 6,815,000  | 7,019,000  | 7,230,000  | 7,447,000  | 7,670,000  |
| 10       | Total O&M                              | 37,026,528 | 38,182,373 | 34,587,741 | 37,068,753 | 34,667,524 | 37,592,000 | 38,879,000 | 40,217,000 | 41,614,000 | 43,066,000 |
| 11       | % Change                               | 12.1%      | 3.1%       | -9.4%      | 7.2%       | -6.5%      | 8.4%       | 3.4%       | 3.4%       | 3.5%       | 3.5%       |

<sup>(1)</sup> Provision for Bad Debts projected as 1% of retail revenue.

<sup>(2)</sup> Allocation for shared services and storehouse cost.

<sup>(3)</sup> Includes contractual services, legal fees, billing system costs, meter reading and design costs.

Projected O&M expenses for FY 2013 are primarily based on the City's FY 2013 budget and show an increase from FY 2012 generally due to increases in chemical costs and plant operations costs. FY 2013 costs are subsequently trended into the future using inflation estimates. The assumptions used in the development of projected O&M expenses are discussed more fully below. The following inflation estimates were used to project O&M expenses for FY 2014 through FY 2017:

| DESCRIPTION             | INFLATION |
|-------------------------|-----------|
| Salaries & Wages        | 2.50%     |
| Health & Benefits       | 10.00%    |
| Plant Operations        | 4.00%     |
| Chemicals               | 4.00%     |
| Retirement Contribution | 3.00%     |
| OPEB                    | 3.00%     |
| Administrative          | 3.00%     |
| Other*                  | 3.00%     |

\*Excludes ROI and PILOT

These inflation estimates apply to all projections for FY 2014 through FY 2017.

Salaries and Wages costs for FY 2013, shown on Line 1 of Table 6, are indicative of a salary increase from FY 2012. An annual inflation rate of 2.5 percent is assumed in FY 2014 through FY 2017, allowing for anticipated annual wage adjustments.

Health and Benefits costs for FY 2013 are shown on Line 2 of Table 6, estimated to be 9.7 percent higher than such costs in FY 2012, and reflect a 10.0 percent inflation factor each year thereafter.

Plant operations costs are shown on Line 3 of Table 6, and are estimated for FY 2013 to increase by about 8.1 percent from FY 2012 levels, from \$6.6 million to \$7.1 million. An inflation rate of 4.0 percent is assumed for each year thereafter.

Historical and projected Chemical costs are shown in Table 6, Line 4. Commodity costs, such as bulk chemical costs, have fluctuated historically and the results for FY 2012, a reduction in Chemical costs of approximately \$560,000, is an indication of this volatility, FY 2013 chemical costs are projected to be \$3.7 million, consistent with FY 2010 and FY 2011 costs. For FY 2014 through FY 2017 chemical costs are estimated to inflate at 4.0 percent annually.

The projection of Bad Debt Expense is based on one percent of projected Retail Revenues, and is shown on Line 5 of Table 6.

Retirement Contribution costs are estimated to be \$2.6 million in FY 2013, and are expected to increase 3.0 percent annually thereafter as shown on Line 6 of Table 6.

Other Post Employee Benefits are estimated to amount to \$300,000 in FY 2013, and are expected to increase 3.0 percent annually thereafter, as shown on Line 7 of Table 6.

General allocation of expenses to offset charges for specific internal services provided by other City Departments, such as Human Resources, Finance and Legal Support, are budgeted within applicable Water Utility Cost Centers. Such costs are shown on Line 8 of Table 6 and are projected to increase annually at a rate of 3.0 percent.

Other costs; including contractual services, legal fees, billing system costs, meter reading, and design costs are projected to increase 3.0 percent annually as shown in Line 9 of Table 6.

The Director's Office, the Accounting and Budget, the Engineering, and the Water Accounts Divisions also provide administrative and engineering support for the City's Sewer System. The total Water Fund Operating Budget for these expenses is included in total O&M in Table 6. The Sewer System's share of these administrative and engineering costs is recovered by an interdepartmental transfer, which is included as Other Operating Revenue on Line 10 of Table 5.

The Water Fund Operating Budget includes a transfer payment to Norfolk's General Fund as Return on Investment (ROI). This transfer recognizes a return to the City for its continued investment in the Water Fund. ROI is not typically recorded in utility chart of accounts as an operation or maintenance expense. Consistent with the chart of accounts and the Master Indenture, the transfer to the General Fund has not been included with the Water Fund's O&M expenses shown in Table 6. The payment to the General Fund for ROI is subsequently accounted for in Table 9.

Budgeted operating expenses also include a PILOT paid to the City's General Fund. PILOT represents a payment to the City in lieu of property taxes that might otherwise be paid by a private utility on above ground property within the City limits, and represents a transfer of revenues to the City. Although included in the Water Fund Operating Budget, PILOT and ROI are excluded from the definition of O&M in the Master Indenture. Therefore, in Table 6, PILOT is not included but has been accounted for subsequently in Table 9 for evaluating revenue adequacy.

The FY 2012 operating expenses, excluding about \$11.2 million for PILOT and ROI, results in a net O&M expenditure of \$34.7 million. The total Water Fund O&M expense is projected to increase from the FY 2013 projected levels of \$37.6 million to approximately \$43.1 million in FY 2017. The annual inflationary increase during this time ranges from 3.4 to 3.5 percent per year.

### **3.2 CAPITAL IMPROVEMENT PROGRAM CASH FLOW EXPENDITURES**

When financing its capital improvements, the City estimates annual project expenditure requirements of the ongoing CIP. To the extent actual project bids are less than authorized amounts, the City evaluates project priorities and may add projects as allowed within authorized levels each budget year. The most recent results of this process are shown in Table 7 for the Study Period. Specific projects include regulatory driven 37<sup>th</sup> Street WTP upgrades, Western Branch Dam improvements and distribution main upgrades in Norfolk's Retail Service neighborhoods.

Cash flow projections for capital projects during the Study Period are assumed to include an allowance for inflation. Annual capital improvement program cash flow expenditures, varying in size from nearly \$35.6 million in FY 2014 to \$14.9 million in FY 2013, total an estimated \$111.9 million for FY 2013 to FY 2017.

Table 7 includes cash flow for some previously authorized CIP (FY 2013 and prior), and some cash flow for future planned CIP (FY 2014 and future). Many of the projects included in the Capital Improvement Program Spending Plan were authorized under previous budgets. All significant projects listed above are discussed in Section 2.0 in detail.

**Table 7**  
**Projected Capital Improvement Program Spending Plan**  
**Fiscal Year Ending June 30,**

| Line No.        | Description                                                  | Projected         |                   |                   |                   |                   | Total              |
|-----------------|--------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
|                 |                                                              | 2013              | 2014              | 2015              | 2016              | 2017              | 2013 - 2017        |
|                 |                                                              | \$                | \$                | \$                | \$                | \$                | \$                 |
| <b>Projects</b> |                                                              |                   |                   |                   |                   |                   |                    |
| 1               | MBWTP Basin 7 & 8 Improvements                               | 2,228,800         | -                 | -                 | -                 | -                 | 2,228,800          |
| 2               | Tank Coating/Repairs                                         | 500,000           | 500,000           | -                 | -                 | -                 | 1,000,000          |
| 3               | MBWTP Basins 2-3-4-5-6 Improvements                          | -                 | 2,000,000         | 1,000,000         | -                 | -                 | 3,000,000          |
| 4               | Filter Upgrades & Miscellaneous                              | -                 | 2,000,000         | -                 | -                 | -                 | 2,000,000          |
| 5               | 37th St Plant Upgrades, Phase 3                              | -                 | 9,375,000         | 12,500,000        | 3,125,000         | -                 | 25,000,000         |
| 6               | Blackwater and Nottoway Phase II                             | 77,000            | -                 | -                 | -                 | -                 | 77,000             |
| 7               | Centrifuge at Moores Bridges (Facility)                      | 2,400,000         | 1,200,000         | -                 | -                 | -                 | 3,600,000          |
| 8               | Natural Gas Engine at Moores Bridges                         | 56,000            | -                 | -                 | -                 | -                 | 56,000             |
| 9               | Western Branch Dam                                           | -                 | 12,500,000        | 12,500,000        | -                 | -                 | 25,000,000         |
| 10              | Well Head Treatment (Acid Feed)                              | 23,200            | -                 | -                 | -                 | -                 | 23,200             |
| 11              | SCADA                                                        | 42,000            | -                 | -                 | -                 | -                 | 42,000             |
| 12              | Replace Lab Equipment - Moores Bridges Water Treatment Plant | 85,000            | -                 | -                 | -                 | -                 | 85,000             |
| 13              | Transmission and Distribution Projects                       | 9,500,000         | 8,000,000         | 5,000,000         | 6,000,000         | 6,000,000         | 34,500,000         |
| 14              | Lake Prince Aeration                                         | -                 | -                 | -                 | -                 | 500,000           | 500,000            |
| 15              | System-wide Reservoir Rehabilitation                         | -                 | -                 | -                 | 500,000           | -                 | 500,000            |
| 16              | Raw Water Pipelines                                          | -                 | -                 | -                 | 2,700,000         | 2,700,000         | 5,400,000          |
| 17              | Moores Bridges Water Treatment Plant                         | -                 | -                 | -                 | 1,500,000         | -                 | 1,500,000          |
| 18              | 37th Street Water Treatment Plant                            | -                 | -                 | -                 | -                 | 5,000,000         | 5,000,000          |
| 19              | Master Meters                                                | -                 | -                 | -                 | -                 | 120,000           | 120,000            |
| 20              | Little Creek Booster Station                                 | -                 | -                 | -                 | 150,000           | -                 | 150,000            |
| 21              | Safe Drinking Water Act                                      | -                 | -                 | -                 | 135,000           | 640,000           | 775,000            |
| 22              | Automated Meter Reading Program                              | -                 | -                 | -                 | 300,000           | 150,000           | 450,000            |
| 23              | Meter Changeout Program                                      | -                 | -                 | -                 | 150,000           | -                 | 150,000            |
| 24              | Billing System - Upgrades                                    | -                 | -                 | -                 | 300,000           | -                 | 300,000            |
| 25              | Fishing Facilities and Boat Ramps                            | -                 | -                 | -                 | -                 | 100,000           | 100,000            |
| 26              | HVAC at Combined Operations                                  | -                 | -                 | -                 | 300,000           | -                 | 300,000            |
| 27              | <b>Total Capital Program Spending Plan</b>                   | <b>14,912,000</b> | <b>35,575,000</b> | <b>31,000,000</b> | <b>15,160,000</b> | <b>15,210,000</b> | <b>111,857,000</b> |

### 3.3 PROJECTED FINANCIAL OPERATIONS

The projected cash flow of operations and capital program funding is discussed in this Section, and is based on estimated levels of revenues, operating expenses and capital program expenditures developed in Tables 2 through 7. Funding requirements for various reserve funds are also discussed. Tests for compliance with the Revenue Covenant of the Master Indenture and Conditions for Issuing Additional Bonds are made to check revenue adequacy.

To provide for the continued operation of the Water Utility on a sound financial basis, utility revenues must be adequate to meet the following criteria:

- Fund annual utility revenue requirements on a revenue priority basis. The Master Indenture stipulates that the City will make transfers from the Revenue Fund in the following order of priority:
  - Operating Fund, to maintain a balance of one-sixth of each year's budgeted operating expenses excluding debt service, capitalized operation and maintenance expense, and payments to the

General Fund. This equates to payment of O&M expenses as they are incurred, and maintaining approximately sixty days of budgeted O&M expenses as a working capital reserve.

- Bond Fund, to meet principal and interest payments on revenue bond debt.
- Parity Debt Service Fund, to make payments on any Parity Indebtedness when due.
- Debt Service Reserve Fund, held by the Trustee as additional security for the Bondholders, to build any deficiencies in the Debt Service Reserve Fund back to the Debt Service Reserve Requirement level.
- Subordinate Debt Service Fund, to make payments on any Subordinate Debt when due.
- Repair and Replacement Reserve Fund, such amounts as may be determined by the City to establish, sustain or increase the reserve level from the initial \$1,000,000 balance.
- Rate Stabilization Fund, such amounts as may be necessary to accumulate the Rate Stabilization Requirement for use in mitigating impacts of projected future rate increases, and anticipated true-ups of wholesale customer revenues.
- General Reserve Fund, to use first to cure any deficit which may exist in the Operating Fund, the Bond Fund, the Parity Debt Service Fund, the Debt Service Reserve Fund, the Repair and Replacement Fund and the Rate Stabilization Fund, and then for any lawful purpose.

■ Revenue Covenants and Conditions for Issuing Additional Bonds.

### 3.3.1 Projected Financial Operating Results

The projected financial ability of Norfolk's Water Fund revenue to meet annual revenue requirements and maintain adequate fund balances for the Study Period is summarized in Table 8 through Table 10. These tables provide an indication of the Fund's ability to meet the Revenue Covenant of the Master Indenture while indicating a need for periodic issuance of revenue bonds to cover the estimated cash flow needs of the capital program.

Projections of annual water sales revenue from existing rates, estimated additional revenues from projected rate increases, other operating revenue and interest income, which result in total available revenue, are shown in Lines 1 through 8 of Table 8. The City has historically reviewed and adjusted water rates annually, as necessary, to recover all costs of providing water service. An adopted City ordinance provides for an automatic increase of 3.5 percent annually in the Norfolk Retail rates. Line 3 of Table 8 shows revenue adjustments, which; (1) recognize rate making provisions in existing contracts between Norfolk and its wholesale customers; and, (2) reflect continued approval of Utilities' Retail rate increases of 3.5 percent for FY 2014 through FY 2017 as allowed by City ordinance. All rates are assumed to be implemented by Norfolk on July 1 of the fiscal years shown.

As shown in Line 8 on Table 8, total annual revenue ranges from \$83.6 million in FY 2014 to \$92.3 million in FY 2017. The Virginia Beach Water Services Contract provides for true-up adjustments of biennially projected rates. Included in FY 2012 is anticipated true-up resulting from the biennial true-up. For the FY 2013 through FY 2017 periods it is assumed that the revenue projection adequately represents the cost of services provided to Virginia Beach in accordance with contractual terms and conditions, thus no true-ups are projected.

Projected transfers to or from the Rate Stabilization Fund are presented on Line 5 of Table 8. No transfers to or from the Rate Stabilization Fund are anticipated during the Study Period. The Rate Stabilization Fund does not have a required minimum balance. As presented on Line 12 of Table 9, the Rate Stabilization Fund balance is projected to remain at \$2.0 million throughout the Study Period.

Projections of Other Operating Revenue on Line 6 of Table 8 are those previously presented in Table 5, including the reimbursement to the Water Fund for administrative and engineering costs associated with the Wastewater System. Interest Income projections are based on an interest rate of 0.5 percent in FY 2013 times the average of the beginning and ending year balances in the Operating Fund, the Rate Stabilization Fund, the Operating Fund Reserve and the Repair and Replacement Reserve Fund. Each year thereafter, the interest rate is projected to increase by 0.25 percent, achieving a projected interest rate of 1.5 percent in FY 2017. These funds are discussed subsequently.

Projections of O&M expenses on Line 9 of Table 8 are those previously presented in Table 6. Line 10 of Table 8 shows estimated Net Revenue remaining after deducting projected O&M expenses from total revenue.

**Table 8**  
**Projected Operating Results**  
**Fiscal Year Ending June 30,**

| Line No.                    | Description                                             | 2012         | Projected    |              |              |              |              |
|-----------------------------|---------------------------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                             |                                                         | \$           | 2013         | 2014         | 2015         | 2016         | 2017         |
| Projected Operating Results |                                                         |              |              |              |              |              |              |
| 1                           | Revenue from Rates:                                     |              |              |              |              |              |              |
| 2                           | Revenue from Existing Rates <sup>(1)</sup>              | 78,924,000   | 78,614,000   | 78,776,000   | 78,982,000   | 79,362,000   | 79,413,000   |
| 3                           | Revenue from Increases <sup>(2)</sup>                   | -            | -            | 2,244,000    | 4,529,000    | 6,940,000    | 9,369,000    |
| 4                           | Gross Water Sales Revenue                               | 78,924,000   | 78,614,000   | 81,020,000   | 83,511,000   | 86,302,000   | 88,782,000   |
| 5                           | Rate Stabilization Fund Transfers (to)/from             | -            | -            | -            | -            | -            | -            |
| 6                           | Other Operating Revenue                                 | 2,276,000    | 2,053,000    | 2,053,000    | 2,053,000    | 2,053,000    | 2,053,000    |
| 7                           | Interest Income                                         | 95,000       | 304,000      | 527,000      | 787,000      | 1,089,000    | 1,428,000    |
| 8                           | Total Revenue                                           | 81,295,000   | 80,971,000   | 83,600,000   | 86,351,000   | 89,444,000   | 92,263,000   |
| 9                           | Operation and Maintenance Expenses                      | (34,668,000) | (37,592,000) | (38,879,000) | (40,217,000) | (41,614,000) | (43,066,000) |
| 10                          | Net Revenue                                             | 46,627,000   | 43,379,000   | 44,721,000   | 46,134,000   | 47,830,000   | 49,197,000   |
| 11                          | Revenue Bond Debt Service                               |              |              |              |              |              |              |
| 12                          | Outstanding Bonds                                       | (22,469,000) | (21,276,000) | (20,727,000) | (21,050,000) | (21,644,000) | (23,093,000) |
| 13                          | 2013 Bonds <sup>(3)</sup>                               | -            | (430,000)    | (2,178,000)  | (2,178,000)  | (2,178,000)  | (2,178,000)  |
| 14                          | Proposed Future Bonds <sup>(4)</sup>                    | -            | -            | -            | (2,927,000)  | (2,927,000)  | (4,899,000)  |
| 15                          | Total Revenue Bond Debt Service                         | (22,469,000) | (21,706,000) | (22,905,000) | (26,155,000) | (26,749,000) | (30,170,000) |
| 16                          | Revenue Bond Debt Service Coverage                      | 2.08         | 2.00         | 1.95         | 1.76         | 1.79         | 1.63         |
| 17                          | Existing General Obligation Debt Service <sup>(5)</sup> | (2,222,000)  | (822,000)    | (592,000)    | (561,000)    | -            | -            |
| 18                          | Total Debt Service                                      | (24,691,000) | (22,528,000) | (23,497,000) | (26,716,000) | (26,749,000) | (30,170,000) |
| 19                          | Total Debt Service Coverage                             | 1.89         | 1.93         | 1.90         | 1.73         | 1.79         | 1.63         |
| 20                          | Net Available For Other Purposes                        | 21,936,000   | 20,851,000   | 21,224,000   | 19,418,000   | 21,081,000   | 19,027,000   |

- (1) Declines in revenue from existing rates, between FY 2012 and FY 2013, result from recent bond refunding which, cause a reduction in revenue from Virginia Beach.
- (2) City Ordinance provides for an increase of 3.5 percent annually in Norfolk Retail rates. Also includes projected increases in wholesale contracts, in accordance with individual contract terms.
- (3) Assumes 2013 Series Bond sale of \$43.6M issued in FY 2013.
- (4) Assumes future bond sales of \$44.5M issued in FY 2015, and \$30.0M issued in FY 2017.
- (5) General Obligation Debt Service is not subordinate debt and is paid from the General Reserve Fund.

**Table 9**  
**City of Norfolk Water Utility Fund Balance Projections**  
**Fiscal Year Ending June 30,**

| Line No.                   | Description                                      | Projected    |              |              |              |
|----------------------------|--------------------------------------------------|--------------|--------------|--------------|--------------|
|                            |                                                  | 2013         | 2014         | 2015         | 2016         |
|                            |                                                  | \$           | \$           | \$           | \$           |
| <b>Sources of Funds</b>    |                                                  |              |              |              |              |
| 1                          | General Reserve Fund Beginning Balance           | 45,263,000   | 54,470,000   | 63,777,000   | 71,282,000   |
| 2                          | Net Available for Other Purposes                 | 20,851,000   | 21,224,000   | 19,418,000   | 21,081,000   |
| 3                          | Total Sources                                    | 66,114,000   | 75,694,000   | 83,195,000   | 92,363,000   |
| <b>Uses Of Funds</b>       |                                                  |              |              |              |              |
| 4                          | Deposits (to) / from Operating Fund Reserve      | (232,000)    | (241,000)    | (251,000)    | (260,000)    |
| 5                          | Deposits (to) / from Repair and Replacement Fund | -            | -            | -            | -            |
| 6                          | Cash Financed Capital                            | (120,000)    | (300,000)    | (200,000)    | (200,000)    |
| 7                          | Payment in Lieu of Taxes (PILOT)                 | (2,792,000)  | (2,876,000)  | (2,962,000)  | (3,051,000)  |
| 8                          | Payment to General Fund (ROI)                    | (8,500,000)  | (8,500,000)  | (8,500,000)  | (8,500,000)  |
| 9                          | Total Uses                                       | (11,644,000) | (11,917,000) | (11,913,000) | (12,011,000) |
| 10                         | End of Year General Reserve Fund Balance         | 54,470,000   | 63,777,000   | 71,282,000   | 80,352,000   |
| <b>Unrestricted Assets</b> |                                                  |              |              |              |              |
| 11                         | General Reserve Fund                             | 54,470,000   | 63,777,000   | 71,282,000   | 80,352,000   |
| <b>Restricted Assets</b>   |                                                  |              |              |              |              |
| 12                         | Rate Stabilization Fund                          | 2,000,000    | 2,000,000    | 2,000,000    | 2,000,000    |
| 13                         | Operating Fund Reserve                           | 7,232,000    | 7,473,000    | 7,723,000    | 7,983,000    |
| 14                         | Repair and Replacement Fund                      | 2,000,000    | 2,000,000    | 2,000,000    | 2,000,000    |
| 15                         | Debt Service Reserve Fund <sup>(1)</sup>         | 6,523,000    | 6,523,000    | 6,523,000    | 6,523,000    |
| 16                         | Capital Project Fund / Revenue Bond Proceeds     | 37,391,000   | 2,264,000    | 16,055,000   | 1,202,000    |

<sup>(1)</sup> Does not include debt service reserve fund surety policies, which total \$1,397,168.



**Table 10**  
**City of Norfolk Water Utility Capital Improvement Financing Plan**  
**Fiscal Year Ending June 30,**

| Line<br>No.            | Description                                     | Projected         |                  |                   |                  |
|------------------------|-------------------------------------------------|-------------------|------------------|-------------------|------------------|
|                        |                                                 | 2013              | 2014             | 2015              | 2016             |
|                        |                                                 | \$                | \$               | \$                | \$               |
| <b>Source of Funds</b> |                                                 |                   |                  |                   |                  |
| 1                      | Capital Project Fund Beginning of Year Balance  | 2,081,210         | 37,390,689       | 2,263,689         | 16,054,689       |
| 2                      | Bond Issuance                                   | 50,551,479        | -                | 44,988,000        | -                |
| 3                      | Transfer from / (to) Operating Fund             | 120,000           | 300,000          | 200,000           | 200,000          |
| 4                      | Interest Income                                 | 98,000            | 148,000          | 91,000            | 107,000          |
| 5                      | Total Source of Funds                           | 52,850,689        | 37,838,689       | 47,542,689        | 16,361,689       |
| <b>Uses of Funds</b>   |                                                 |                   |                  |                   |                  |
| 6                      | Major Capital Improvements                      | 14,912,000        | 35,575,000       | 31,000,000        | 15,160,000       |
| 7                      | Bond Issuance Cost                              | 547,800           | -                | 488,000           | -                |
| 8                      | Total Uses of Funds                             | 15,460,000        | 35,575,000       | 31,488,000        | 15,160,000       |
| 9                      | <b>Capital Project Fund End of Year Balance</b> | <b>37,390,689</b> | <b>2,263,689</b> | <b>16,054,689</b> | <b>1,201,689</b> |

Projected debt service requirements for Outstanding Senior Debt, the 2013 Bonds, and subsequent planned additional revenue bonds are shown on Lines 12 through 14 of Table 8. Projected revenue bond debt service is related to proposed annual revenue bond issues sized to finance capital program cash flow expenditures discussed previously in Table 7. The size and timing of proposed revenue bond issues are discussed subsequently. Total annual revenue bond debt service is shown on Line 15 of Table 8. Revenue bond debt service coverage is presented on Line 16 and determined by dividing net revenue (Line 10) by total revenue bond debt service (Line 15). Projected annual coverage is shown to be equal to or greater than 1.63 times throughout the Study Period, exceeding the minimum of 1.10 times required by the Indenture for Outstanding Senior Debt.

The debt service payments for existing General Obligation Bonds are shown on Line 17 of Table 8. Such bonds are not defined as Parity or Subordinated Lien Debt and are excluded from coverage calculations of the Master Indenture.

Total funds available to meet other obligations of the Water Fund are transferred to the General Reserve Fund and shown on Lines 20 of Table 8 and Line 2 of Table 9.

The beginning General Reserve balance of \$45.3 million in FY 2013, as shown on Line 1 of Table 9, reflects available liquid funds (current cash and short-term investments).

For the Water System to operate effectively as a utility enterprise, sound financing dictates that it is both prudent and appropriate to provide a General Reserve Fund to accommodate normal fluctuations in expenditures for utility operations and to provide a Repair and Replacement Reserve to permit immediate funding for unforeseeable capital emergency needs. These reserves are in addition to the normal flow of working capital funds. The requirements of the Master Indenture are consistent with this practice.

At the beginning of FY 2013 the City has a balance in the Operating Fund Reserve of \$7.2 million. As shown on Line 13 of Table 9, the Operating Fund Reserve balance is assumed to increase to \$8.3 million in FY 2017 due to the anticipated annual deposits shown on Line 4 of Table 9, which are calculated in proportion to each year's projected increase in O&M expenses.

The Repair and Replacement Reserve Fund was established with the issuance of the Series 1993 Water Revenue Bonds at the \$1 million minimum required by the Indenture. Subsequent additions to the Repair and Replacement Reserve have provided for the current beginning FY 2013 balance of \$2 million as shown on Line 14 of Table 9. During the Study Period, the Repair and Replacement Reserve Fund balance is projected to remain at \$2 million as presented on Line 14 of Table 9, exceeding the minimum requirement.

The Debt Service Reserve Fund has been maintained as required by previous versions of the Master Indenture and is met with a combination of maintenance of reserve funds and debt service reserve fund surety policies. The current beginning FY 2013 cash balance of \$6.5 million is anticipated to remain at such levels as shown on Line 15 of Table 9.

Other payments to the City including the Water Fund's payments to the City's General Fund for PILOT and ROI which are shown on Lines 7 and 8 of Table 9. PILOT is projected to increase 3.0 percent annually, while ROI is expected to remain constant over the Study Period.

The resulting End of Year General Reserve Fund balances are shown on Lines 10 and 11 of Table 9 and are considered to be an unrestricted fund balance. The City may elect each year to use available balances from this Fund to finance a portion of future capital improvement projects and thereby reduce the size of future revenue bond issues, as shown on Line 6.

Table 10 shows the proposed financing of the Water Fund's CIP. Table 10 illustrates that all capital program funding needs are assumed to be met from available beginning capital funds balance; proceeds from future revenue bond issues; transfers from the General Reserve Fund; and interest income on invested capital funds and bond proceeds in accordance with restrictions on tax-exempt bond issues.

A beginning fund balance of \$2.1 million is available in FY 2013 for the CIP, as shown on Line 1 of Table 10.

As indicated on Line 2 of Table 10, proceeds amounting to \$50.6 million from the sale of Water Revenue Bonds, Series 2013 are anticipated to be available in FY 2013. This amount of bonds, which includes about \$7.0 million in anticipated premium, is intended to cover issuance costs and provide about \$50.0 million in proceeds for capital improvement expenditures. The 2013 Bonds are assumed to be issued in February 2013 with a term of 30 years, at an average annual interest rate of 5.0 percent.

Additional revenue bond issues, shown on Line 2 of Table 10, will be required in subsequent fiscal years of the Study Period to meet the capital program cash flow requirements. Projected revenue bond proceeds total \$125.9 million for the Study Period ending FY 2017, including proceeds of \$50.6 million in FY 2013 as previously described, \$45.0 million in FY 2015, and \$30.3 million in FY 2017. For long-range planning purposes, a 5.0 percent interest rate on the FY 2015 and FY 2017 revenue bond issues is assumed. Subsequent bond issues are estimated to be sold in July of the fiscal year indicated and sized to provide capital funds adequate to finance major construction in the remainder of the then current fiscal year and the following fiscal year.

### 3.3.2 Revenue Covenant and Bond Issuance Covenant Tests

The Master Indenture, under which the revenue bonds will be issued, requires that sufficient coverage of debt service by Net Revenue be provided. The Master Indenture contains two covenants, one that must be satisfied prior to issuing additional bonds, the Bond Issuance Covenant, and one that must be satisfied on an ongoing basis, the Revenue Covenant. Both covenants measure the ability of revenues generated by the Fund to cover debt service and operating costs.

**Revenue Covenant**, as set forth in Section 9.4 of the Master Indenture requires that the City establish rates such that:

- Total annual revenues less O&M expenses are greater than 1.10 times the sum of annual principal and interest expense of projected Senior Debt Service and 1.00 times Subordinated Debt Service for contracted services. and,
- Total annual revenues are greater than all funding requirements of the Master Indenture, including operation and maintenance expense, projected revenue bond debt service, recurring minor improvements and deposits to reserves.

**Conditions for Issuing Bonds** (the “Additional Bonds Test”) requires that prior to issuing Additional Bonds for capital projects of the System, the City demonstrate that:

- Net Revenues, for any twelve consecutive months of the previous twenty-four months prior to issuance and adjusted as specified under Section 5.3.(h)(3), satisfy the Revenue Covenant in Section 9.4 of the Master indenture, which requires that Net Revenues be greater than 1.10 times the maximum principal and interest expense of outstanding and projected Senior Debt Service and 1.00 times Subordinated Debt Service in the year of bond issuance and, the funding requirements in the year of bond issuance, including operation and maintenance expense, projected revenue bond maximum debt service for outstanding and proposed bonds, recurring minor improvements, and deposits to reserves. We have performed tests to determine if the above-described Revenue Covenant and Conditions for Issuing Bonds will be satisfied over the Study Period using the assumptions contained in this Report. The results of the Revenue Covenant analysis are summarized in Table 8 and Table 11 which demonstrates the ability of Water Utility revenues to meet current and projected water revenue bond debt service coverage requirements.

**Annual Coverage.** The Revenue Covenant requires that Net Revenues not be less than the greater of (i) the sum of 1.1 times Senior Debt Service and 1.0 times the annual principal and interest payments on Subordinated Debt Service and (ii) 1.0 times the funding requirements for the transfer from the Revenue Fund to the Operating Fund, the Bond Fund, the Parity Debt Service Fund, the Debt Service Reserve Fund, the Subordinate Debt Service Fund and the Repair and Replacement Reserve Fund. Line 18 of Table 8 shows annual coverage for the Prior Bonds, the 2013 Bonds and subsequently projected Bond issues exceeding the 1.1 requirement for senior lien debt. No Subordinate Debt is outstanding or is planned during the Study Period.

**Additional Bonds Test.** The Additional Bonds Test, as stipulated by the Master Indenture, requires that, prior to the issuance of Additional Bonds for capital projects of the System, the City must demonstrate that Net Revenues, for any 12 consecutive months of the 24 calendar months preceding the issuance of Additional Bonds (as adjusted for rate increases in effect on the date of issuance) satisfy the requirements of the Revenue Covenant as stated above using the maximum debt service of all outstanding Bonds and projected Bonds in any year. As shown in Table 11, FY 2012 Adjusted Net Revenue is projected to be approximately \$49.0 million, which is based upon FY 2012 unaudited results and adjusted for the adopted FY 2013 schedule of water rates. A comparison of this amount, with the combined maximum principal and interest expense for senior lien debt for existing and proposed 2013 Bonds of \$29,213,394 results in coverage of 1.68 times. No Subordinate Debt is outstanding or projected in FY 2012 or is planned during the Study Period.

**Table 11**  
**Additional Bonds Test**  
**Fiscal Year Ended June 30, 2012**

| Line No. | Description                                          | 2012                 |
|----------|------------------------------------------------------|----------------------|
|          | 2012 Unaudited Net Revenue                           |                      |
| 1        | Total Revenue <sup>(1)</sup>                         | \$ 81,295,219        |
| 2        | Operation and Maintenance Expense <sup>(2)</sup>     | (34,667,524)         |
| 3        | Net Revenue Available for Debt Service               | <u>\$ 46,627,695</u> |
|          | Revenue Adjustments for:                             |                      |
| 4        | 2013 Rate Increase                                   | \$ 2,444,665         |
| 5        | Utility Systems Acquisitions                         | -                    |
| 6        | New Water Service Contracts                          | -                    |
| 7        | System Additions, Extensions and Improvements        | -                    |
| 8        | Total Adjustments                                    | <u>\$ 2,444,665</u>  |
| 9        | Adjusted Net Revenue Available for Debt Service      | <u>\$ 49,072,360</u> |
| 10       | Projected Maximum Senior Debt Service <sup>(3)</sup> | \$ 29,213,394        |
| 11       | Projected Debt Service Coverage                      | 1.68                 |

<sup>(1)</sup> Obtained from Water Utility Fund Financial and Compliance Report Year Ended June 30, 2012.

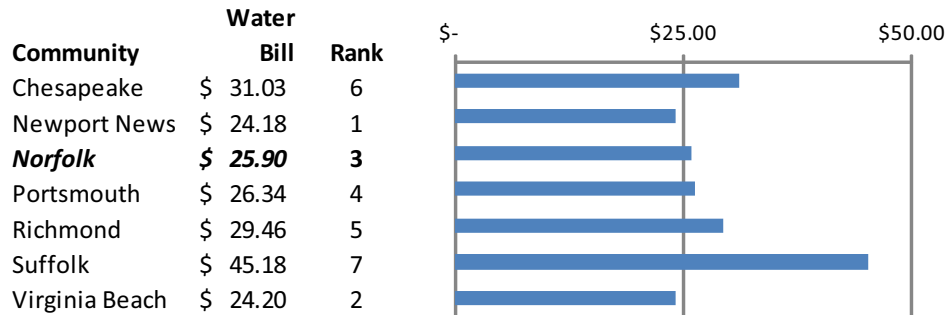
<sup>(2)</sup> Obtained from Water Utility Fund Financial and Compliance Report Year Ended June 30, 2012. Excludes Depreciation and Amortization Expense of \$11,902,145 and PILOT of \$2,710,608.

<sup>(3)</sup> Maximum Senior Debt Service occurs in FY 2024.

### 3.4 TYPICAL BILL COMPARISON

An analysis comparing a typical monthly bill for the City's residential customers at 6 Ccf (about 4,500 gallons) of usage to local water providers was completed and the results are shown in Table 12. Results for the local water providers reflect rates effective as of December 2012. The City's charges for water service are comparable with other water providers in the region and similarly sized systems in the Commonwealth.

**Table 12**  
**Typical Monthly Water Bill (6 Ccf)**



### 3.5 SUMMARY

Based on the engineering and financial feasibility analysis described above, Black & Veatch has provided the following opinions:

- Given current usage and trends, the City's present Water System can be expected to provide sufficient capacity to meet current water needs of its residents, businesses and all of its current contract obligations through the study period. The City's treated water currently meets all physical, chemical, radiological and bacteriological water quality standards established by Federal and State regulations.
- The Water System is managed and operated in an appropriate manner consistent with sound engineering practices and with appropriate levels of staffing; the continuation of these practices, combined with regular maintenance and completion of the proposed CIP, suggest that the System should be capable of providing safe and reliable drinking water to its customers through the Study Period.
- Norfolk's Water System is in overall good condition and appears capable of adequate revenue generation for the term of the 2013 Bonds with continued regular maintenance and scheduled system improvements.
- The CIP adequately addresses known requirements for Water System facility renovations and upgrades. The program addresses current and proposed Federal and State regulations regarding safe drinking water, dam safety and environmental protection. While there are some potential contaminants that may be incorporated into future Safe Drinking Water Act amendments, there are no pending regulations that will appear to impact the improvements planned in the CIP.
- Throughout the Study Period, the City's net revenues are projected to be sufficient (including projected revenue increases indicated in the Report resulting from rate increases which have been approved by City Council) to comply with the annual Revenue Covenant requirement in the Master Indenture, taking into account the actual or projected debt service on the Outstanding Senior Debt, the 2013 Bonds and planned additional Bonds to be issued during the Study Period.

- Assuming the sufficiency of the current estimates and project budgets, the funds available from the 2013 Bonds, together with other funds available to the City will be sufficient to complete the design and/or construction of the CIP.
- Given the assumption and data utilized in the analysis, the System is projected to be able to generate adequate utility reserves during the study period.
- Based on the City's audited financial results for FY 2012, the City is projected to be able to meet the Revenue Covenant requirements of the Master Indenture regarding the issuance of Additional Bonds, taking into account (i) the maximum principal and interest payments on the Outstanding Senior Debt and the 2013 Bonds and (ii) the rates, fees and other charges which are in effect and any future changes therein as have been approved by the City Council at the time of the delivery of the 2013 Bonds.
- The sale of the 2013 Bonds, in the amount of approximately \$43,560,000<sup>1</sup> is financially feasible under the assumptions and projections contained in this Report.

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<sup>1</sup> Preliminary, subject to change

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